ORDER OF SHEETS

Title

Typical Sections and Details Estimate of Quantities

Miscellaneous Quantities

Standard Detail Drawings

Right of Way Plat Plan and Profile

Sign Plates

Section No. 1

Section No. 2

Section No. 3 Section No. 3

Section No. 5 Section No. 6

Section No. 9

Section No. 9

DESIGN DESIGNATION

CONVENTIONAL SYMBOLS

LIMITED HIGHWAY EASEMENT

PROPOSED OR NEW R/W LINE

EXISTING RIGHT OF WAY

A.A.D.T.

D.H.V.

DESIGN SPEED

CORPORATE LIMITS

PROPERTY LINE

SLOPE INTERCEPT

REFERENCE LINE

EXISTING CULVERT

PROPOSED CULVERT (Box or Pipe)

COMBUSTIBLE FLUIDS

WOODED OR SHRUB AREA

MARSH AREA

LOT LINE

D.D.

(2014) = 16600

(2034) = 19100

(2034) = 1,700

= 60/40

= 30.7%

= 35 M.P.H.

= 1,199,755

STA 82+84.47

Y = 505,581.068

X = 844,530.043MATCH EXISTING

PROFILE

GRADE LINE

ORIGINAL GROUND

SPECIAL DITCH

UTILITIES

ELECTRIC

FIBER OPTIC

SANITARY SEWER

UTILITY PEDESTAL

TELEPHONE POLE

POWER POLE

STORM SEWER

GRADE ELEVATION

MARSH OR ROCK PROFILE

CULVERT (Profile View)

(To be noted as such)

TOTAL SHEETS = 114

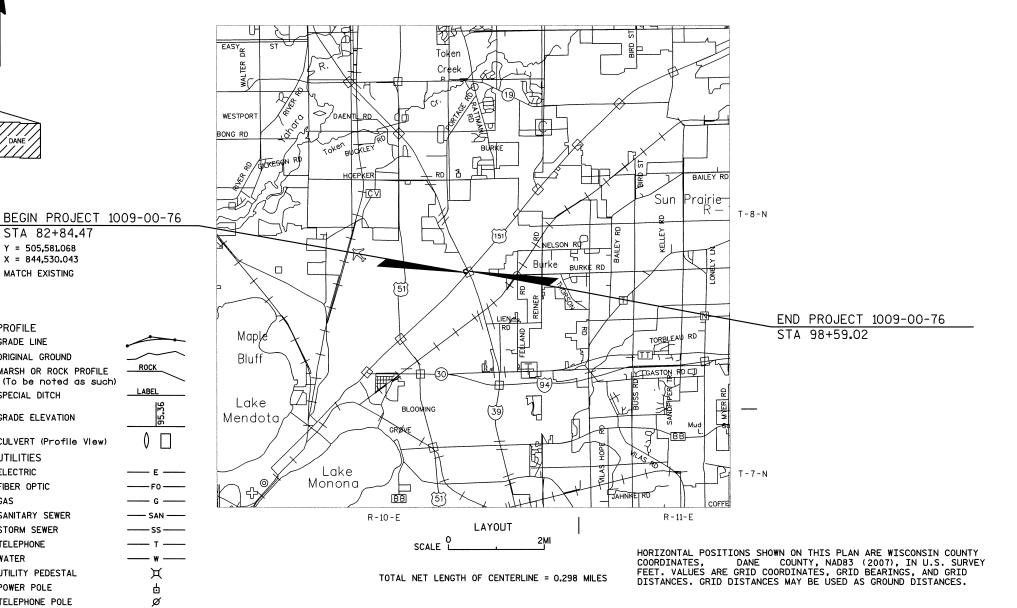
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - SUN PRAIRIE

USH 151S TO IH 39E RAMP

Computer Earthwork Data Cross Sections **USH 151** DANE COUNTY STATE PROJECT NUMBER 1009-00-76



Mead Middleton WI 53562 608.273.6380 fax: 608.273.6391 www.meadhunt.com SCONS SCOTT A. HASBURGH E-33329 BARNEVELD, WI ONAL Emilian DEC 9 2014 DEC 9,2014 STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION PREPARED BY Surveyor MEAD & HUNT MEAD & HUNT Designer Project Manager Regional Examiner BRENDA SCHOENFELD Regional Supervisor.... JANE ENGLEBRETSEN C.O. Reviewer APPROVED FOR THE DEPARTMENT Brenda Schoenfeld DATE:_12/09/2014

ORIGINAL PLANS PREPARED BY

FEDERAL PROJECT

CONTRACT

PROJECT

STATE PROJECT

1009-00-76

FILE NAME : X:\3230900\141943.01\TECH\CAD\10090076\SHEETSPLAN\010101_TI.DWG

PLOT DATE: 12/9/2014 8:57 AM

PLOT BY : DAVID YAHNKE

PLOT NAME :

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE APPROXIMATE USGS DATUM NAVD $88\ (2007)$.

WHEN THE QUANTITY OF BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE FINGINFER

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

CURVE DATA IS BASED ON THE ARC DEFINITION.

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOIL, FERTILIZED, SEEDED AND EROSION MATTED.

BEARINGS SHOWN ON THE PLANS ARE GROUND BEARINGS TO THE NEAREST SECOND.

ALL CURB AND GUTTER RADH, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

CONSTRUCT INSIDE EDGE OF TERRACE 1/4-INCH HIGHER THAN THE TOP OF CURB, WHEN THEY ARE ADJACENT TO EACH OTHER.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING PAVEMENTS AT REMOVAL LIMITS.

TOP OF CASTING ELEVATIONS SHOWN FOR INLETS REFER TO THE CASTING ELEVATION AT THE FRONT EDGE OF CASTING.

ALL STORM SEWER INVERTS, ELEVATIONS, PIPE LENGTHS, AND GRADES ARE COMPUTED CENTER-TO-CENTER OF STRUCTURES.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON OR ROCK EXCAVATION.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

EXISTING PIPE CULVERT AND/OR CONCRETE BOX CULVERT SIZES SHOWN ARE APPROXIMATE AND THE CONTRACTOR SHALL BASE ITS BID ON ACTUAL FIELD CONDITIONS.

ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
RAMP CLOSURE GATE DETAIL
EROSION CONTROL DETAILS
PERMANENT SIGNING AND MARKING DETAILS
TRAFFIC CONTROL DETAILS
ALIGNMENT DETAILS

UTILITY CONTACTS

WISDOT
COMMUNICATION
ATTN: MR. JEFF MADSON
WISCONSIN DEPARTMENT OF TRANSPORTATION-COMMUNICATION
433 W. ST. PAUL AVE. STE. 300
MILWAUKEE, WI 53203-3007

TELEPHONE: (414) 225-3723
EMAIL: JEFFREY.MADSON@DOT.WI.GOV



WISDOT CONTACT WISDOT, SOUTHWEST REGION 2101 WRIGHT ST. MADISON, WI 53704

ATTN: MS. AMY COUGHLIN, P.E. TELEPHONE: 608-245-5358 E-MAIL: AMY.COUGHLIN@DOT.WI.GOV

CONSULTANT CONTACT MEAD & HUNT, INC. 2440 DEMING WAY MIDDLETON, WI 53562

ATTN: MR. SCOTT HASBURGH, P.E. TELEPHONE: 608-273-6380 E-MAIL: SCOTT.HASBURGH@MEADHUNT.COM DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
SOUTH CENTRAL DISTRICT
3911 SOUTH FISH HATCHERY ROAD
FITCHBURG, WI 53711

ATTN: MR. ERIC HEGGELUND TELEPHONE: 608-275-3301 E-MAIL: ERIC.HEGGELUND@WISCONSIN.GOV

PROJECT NO: 1009-00-76

HWY: USH 151

COUNTY: DANE

GENERAL NOTES

PLOT BY : DAVID YAHNKE

PLOT NAME :PLOT SCALE : 1" = 1

SHEET

____ | E

		ST	ANDARD ABBREVIATIONS			
ABUT	ABUTMENT	FP	FENCE POST	REQD	REQUIRED	
AP	ACCESS POINT	FERT	FERTILIZE	RES	RESIDENCE OR RESIDENTIAL	_
AR	ACCESS RIGHTS	FE	FIELD ENTRANCE	RW	RETAINING WALL	
AC	ACRE	F FG	FILL FINISH GRADE	RT RHF	RIGHT RIGHT-HAND FORWARD	-
AGG AH	AGGREGATE AHEAD	FAB	FLASHING ARROW BOARD	R/W	RIGHT-OF-WAY	
ET AL	AND OTHERS	HES	HIGH EARLY STRENGTH	R	RIVER	
\triangleleft	ANGLE	Н	HOUSE	RD	ROAD	
ASPH	ASPHALTIC	HYD	HYDRANT	RDWY	ROADWAY	
APM	ASPHALTIC PLANT MIX	IN DIA	INCH DIAMETER	SALV	SALVAGED	
AVG	AVERAGE	INTERS	INTERSECTION	SSS	SANITARY AND STORM SEWER	
AADT	ANNUAL AVERAGE DAILY TRAFFIC	INV IP	INVERT IRON PIPE OR PIN	SAN S SEC	SANITARY SEWER SECTION	
ВК	BACK	JT	JOINT	SHLDR	SHOULDER	
BF B.	BACK FACE	JCT	JUNCTION	SHR	SHRINKAGE	
BL or B/L BM	BASE LINE BENCH MARK	LT	LEFT	SW	SIDEWALK	
BLK	BLOCK	LHF	LEFT-HAND FORWARD	SB#	SIGNAL BASE	
BR	BRIDGE	L	LENGTH OF CURVE	S	SOUTH	
СВ	CATCH BASIN		LFLINEAR FOOT	SB SP	SOUTHBOUND	
CL or C/L	CENTER LINE	LC LS	LONG CHORD OF CURVE LUMP SUM	SC SC	SPECIAL SPECIAL CROSSING	
CC	CENTER TO CENTER	MAINT	MAINTENANCE	SPECS	SPECIFICATIONS	
011	CENTRAL ANGLE OR DELTA	MH	MANHOLE	SQ	SQUARE	
CH CH BRG	CHORD CHORD BEARING	MP	MARKER POST	SF or SQ F	T SQUARE FEET	
CE BRG	COMMERCIAL ENTRANCE	M	MARSH		YD SQUARE YARD	
CONC	CONCRETE		MATCH LINE	STD	STANDARD STANDARD STANDARD	
CB#	CONTROL BASE	MATL MB	MATERIAL MESSAGE BOARD	SDD	STANDARD DETAIL DRAWINGS	
CORR	CORRUGATED	NOM	NOMINAL	STH STA	STATE TRUNK HIGHWAYS STATION	
CACP	CORRUGATED ALUMINUM CULVERT PIPE	NRCPSS	NON REINFORCED CONCRETE PIPE STORM SEWER	SS	STORM SEWER	
CAPA	CORRUGATED ALUMINUM PIPE ARCH	NC	NORMAL CROWN	SE	SUPERELEVATION	
CSCP CSPA	CORRUGATED STEEL CULVERT PIPE	NW or N/V	NORMAL WATER	SURF	SURFACE	
CSPCP	CORRUGATED STEEL PIPE ARCH CORRUGATED STEEL PIPE CATTLE PASS	N	NORTH	Т	TANGENT	
CO	COUNTY	Y	NORTH GRID COORDINATE	TEL	TELEPHONE	
CTH	COUNTY TRUNK HIGHWAY	NB NO	NORTHBOUND NUMBER	TEMP	TEMPORARY	
CR	CREEK	OBLIT	OBLITERATE	TI	TEMPORARY INTEREST	
CR	CRUSHED	OL OL	OUT LOT	TLE TPM	TEMPORARY LIMITED EASEMENT TEMPORARY PAVEMENT MARKING	
CÅBC	CRUSHED AGGREGATE BASE COURSE	OD	OUTSIDE DIAMETER	TPMRT	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE	
CY or CUYD	CUBIC YARD	PAVT	PAVEMENT	+	TON	
CULV CP	CULVERT CULVERT PIPE	PERM	PERMANENT	TC	TOP OF CURB	
CG	C & G CURB AND GUTTER	PLE	PERMANENT LIMITED EASEMENT	T or TN	TOWN	
D	DEGREE OF CURVE	PU PUDT	PIPE UNDERDRAIN PIPE UNDERDRAIN DRAIN	TRANS	TRANSITION	
DHV	DESIGN HOUR VOLUME	PUU	PIPE UNDERDRAIN UNPERFORATED	T or 1/L	TRANSIT LINE TRUCKS (PERCENT OF)	
DIA	DIAMETER	PT	POINT	TYP	TYPICAL	
DD	DIRECTIONAL DISTRIBUTION	PCC	POINT OF COMPOUND CURVE	UG	UNDERGROUND	
DISCH	DISCHARGE	PC	POINT OF CURVATURE	USH	UNITED STATES HIGHWAY	
DIST DG	DISTRICT	PI	POINT OF INTERSECTION	VAR	VARIABLE	
DOC	DITCH GRADE DOCUMENT	PT	POINT OF TANGENCY POLYVINYL CHLORIDE	V	VELOCITY OR DESIGN SPEED	
DWY	DRIVEWAY	PVC PCC	PORTLAND CEMENT CONCRETE	VERT	VERTICAL SUBJECTION OF THE PROPERTY OF THE PRO	
E	EAST		LB POUND	VC	VERTICAL CURVE	
Χ	EAST GRID COORDINATE	PSI	POUNDS PER SQUARE INCH	VPCC Curve	VERTICAL POINT OF COMPOUND CURVE	
EB	EASTBOUND	PE	PRIVATE ENTRANCE	VPC	VERTICAL POINT OF CURVE	
ELEC	ELECTRIC (AL)	PROJ	PROJECT	VPI	VERTICAL POINT OF INTERSECTION	
EL or ELEV	ELEVATION	PL R	PROPERTY LINE	VPRC	VERTICAL POINT OF REVERSE CURVE	
EMB EVP	EMBANKMENT	R RP	RADIUS RADIUS POINT	VPT	VERTICAL POINT OF TANGENCY	
EVP EVPR	EMERGENCY VEHICLE PREEMPT EMERGENCY VEHICLE PREEMPT RECEIVER	RR	RAILROAD	VIT	VITRIFIED	
EW	ENDWALL	RM	RAMP METER	VOL	VOLUME WATER	
ENT	ENTRANCE	R	RANGE	W	WATER WATER MAIN	
ESALS	EQUIVALENT SINGLE AXLE LOADS	RECY	RECYCLED	W∨	WATER VALVE	
EXC	EXCAVATION	RL or R/L RP	REFERENCE LINE REFERENCE POINT	W	WELL	
EBS	EXCAVATION BELOW SUBGRADE	RCCP	REFERENCE POINT REINFORCED CONCRETE CULVERT PIPE	w	WEST	
EX or EXIST	EXISTING	CP	CULVERT PIPE	w WB	WESTBOUND	
FL or F/L FT	FLOW LINE FOOT	RCHECP	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CULVERT PIPE	YD	YARD	
FTG	FOOTING	RCPA	REINFORCED CONCRETE PIPE ARCH			
FDN	FOUNDATION	RCPCP	REINFORCED CONCRETE PIPE CATTLE PASS			
FTMS	FREEWAY TRAFFIC MANAGEMENT SYSTEM	RCPSS	REINFORCED CONCRETE PIPE STORM SEWER			
G	GARAGE	REBAR REINF	REINFORCEMENT BAR			
GN	GRID NORTH	REL REL	REINFORCING OR REINFORCEMENT RELOCATE (D)			
EXP	EXPANSION	REM	REMAINING			
FF	FACE TO FACE OR FRONT FACE		<u>, </u>			
		1	I		- i	1 1

FILE NAME :X:\3230900\141943.01\TECH\CAD\10090076\SHEETSPLAN\020101_GN.DWG

HWY: USH 151

PROJECT NO: 1009-00-76

COUNTY: DANE

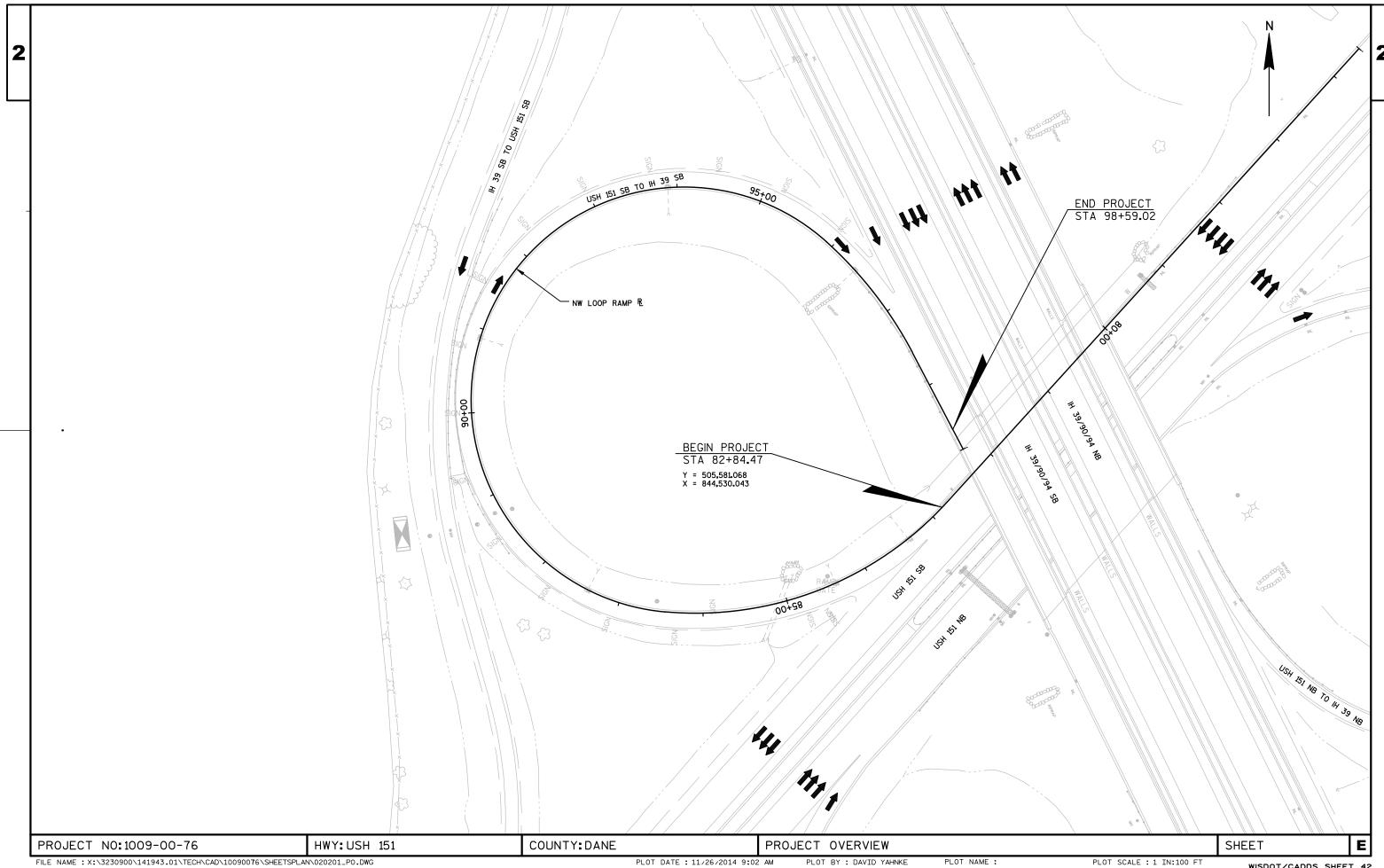
PLOT BY : DAVID YAHNKE

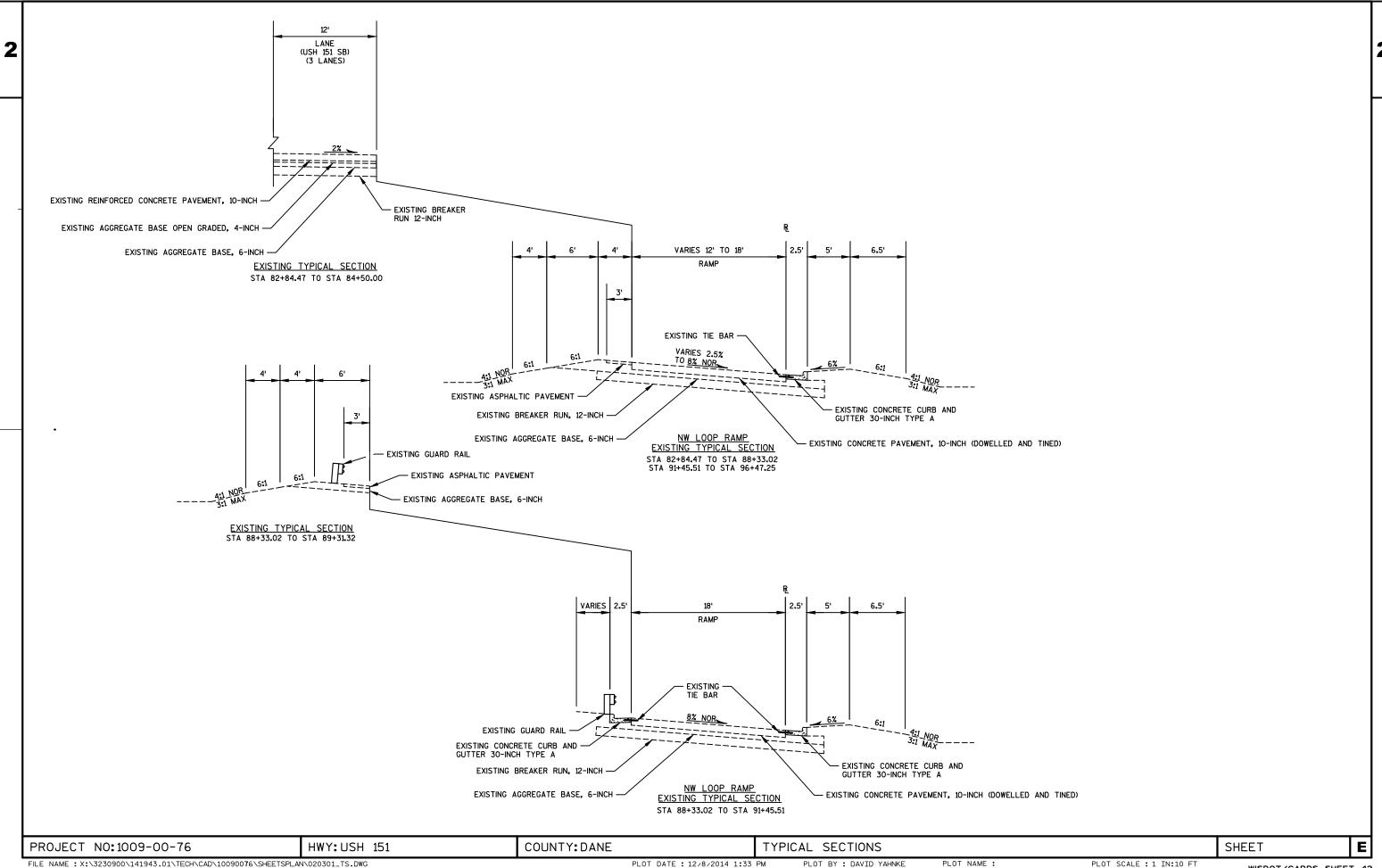
GENERAL NOTES

PLOT NAME : _____PLOT SCALE : 1" = 1'

SHEET

Е





FILE NAME : X:\3230900\141943.01\TECH\CAD\10090076\SHEETSPLAN\020301_TS.DWG

PLOT DATE: 12/8/2014 1:33 PM

PLOT SCALE : 1 IN:10 FT

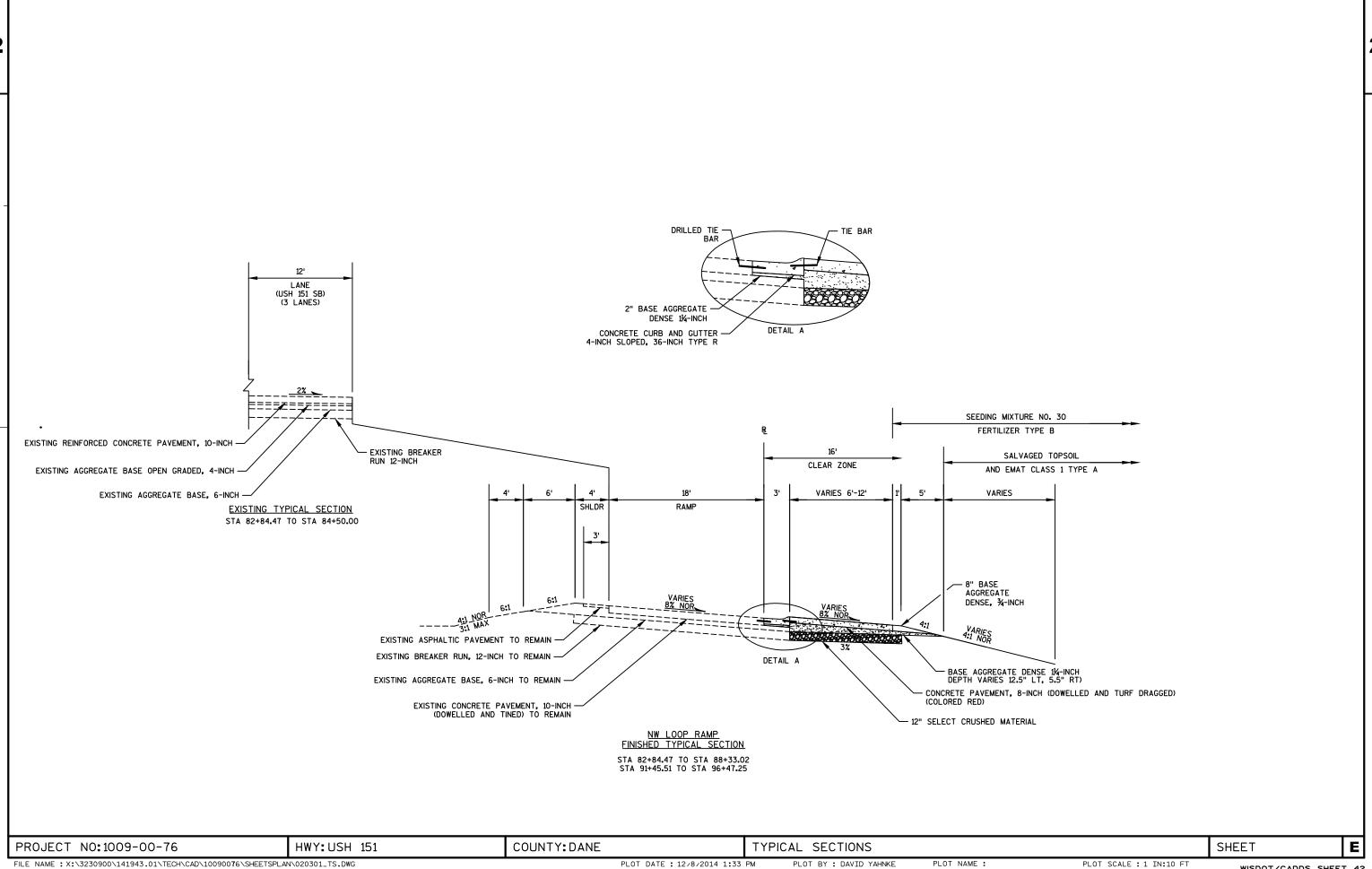
16' COLLECTOR-DISTRIBUTOR 2.5' 5' 6.5' VARIES 12' TO 18' LANE RAMP IH 39/90/94 MAINLINE SIX LANE FREEWAY EXISTING GUARD RAIL -- EXISTING -TIE BAR EXISTING CONCRETE BARRIER SINGLE FACED -VARIES 2.0% TO <u>8% NOR</u> - EXISTING CONCRETE CURB AND GUTTER 30-INCH TYPE A EXISTING BREAKER RUN, 12-INCH -NW LOOP RAMP
EXISTING TYPICAL SECTION
STA 96+47.25 TO STA 98+59.02 - EXISTING CONCRETE PAVEMENT, 10-INCH (DOWELLED AND TINED) EXISTING AGGREGATE BASE, 6-INCH -

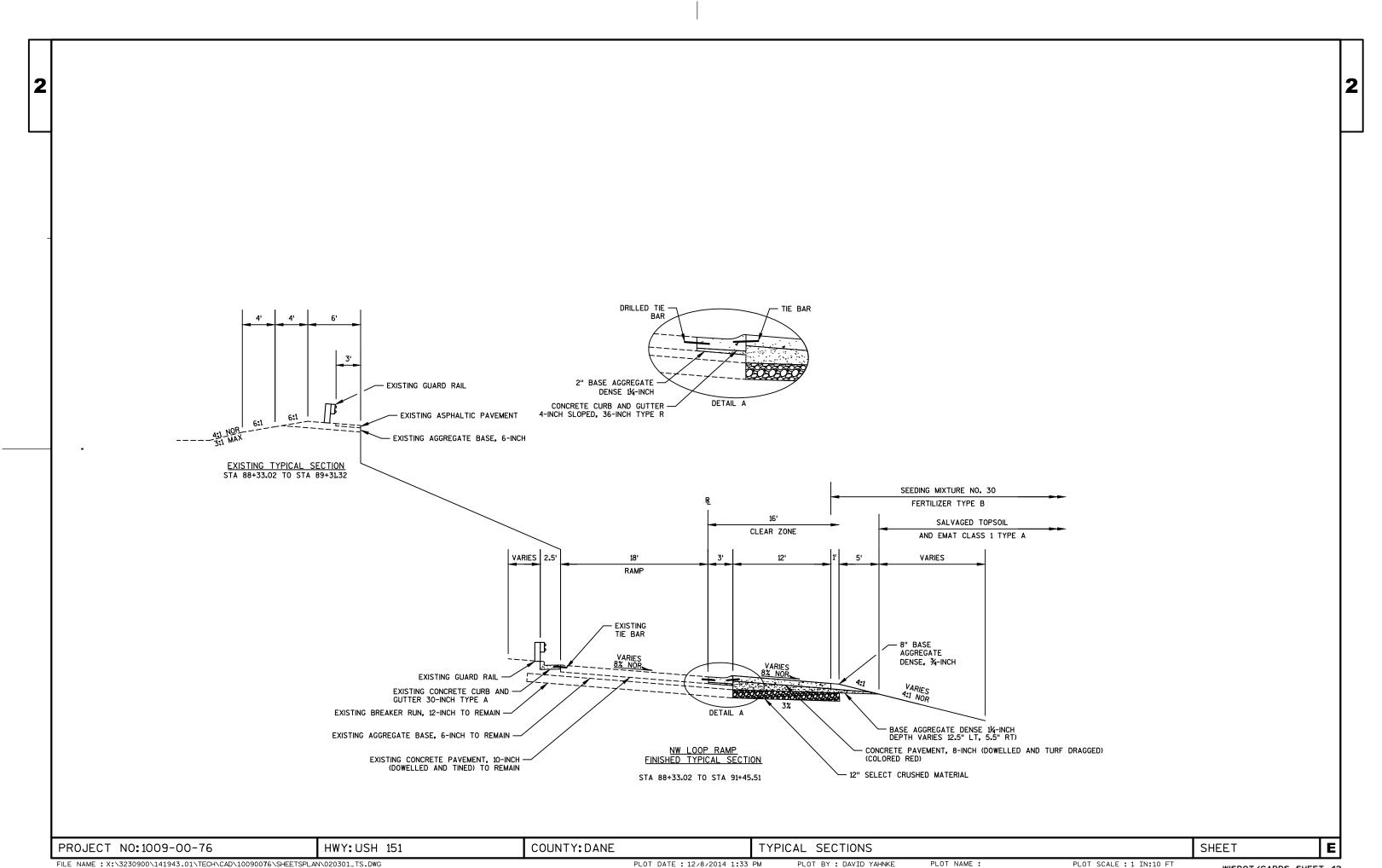
COUNTY: DANE E HWY: USH 151 TYPICAL SECTIONS SHEET PROJECT NO:1009-00-76 PLOT BY : DAVID YAHNKE PLOT NAME :

FILE NAME : X:\3230900\141943.01\TECH\CAD\10090076\SHEETSPLAN\020301_TS.DWG

PLOT DATE: 12/8/2014 1:33 PM

PLOT SCALE : 1 IN:10 FT





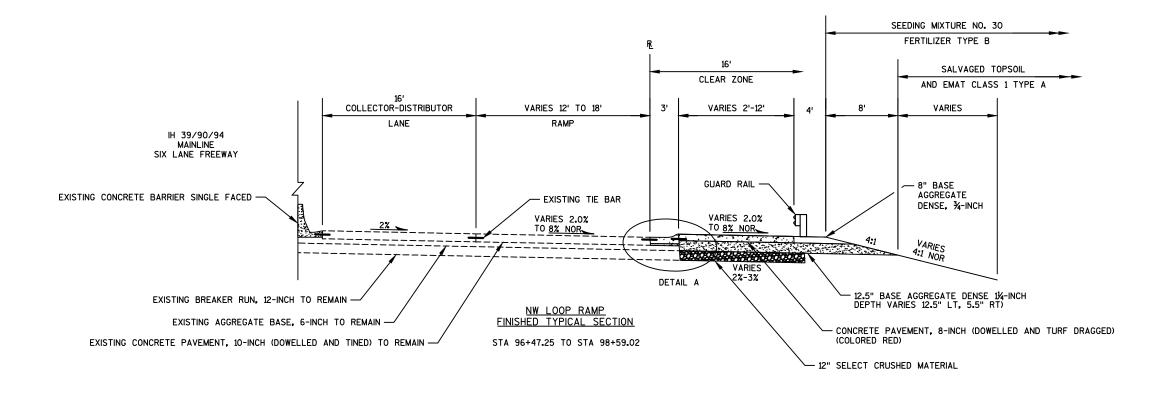
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PLOT DATE: 12/8/2014 1:33 PM

PLOT NAME :

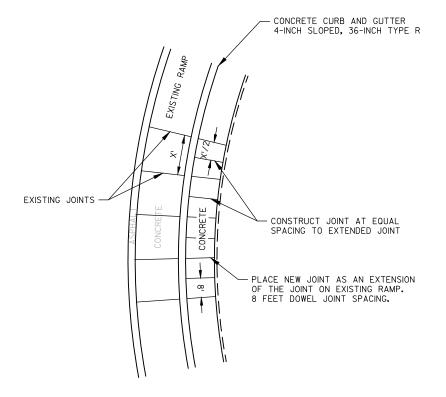
PLOT SCALE : 1 IN:10 FT

DRILLED TIE - TIE BAR 2" BASE AGGREGATE DENSE 114-INCH DETAIL A CONCRETE CURB AND GUTTER 4-INCH SLOPED, 36-INCH TYPE R

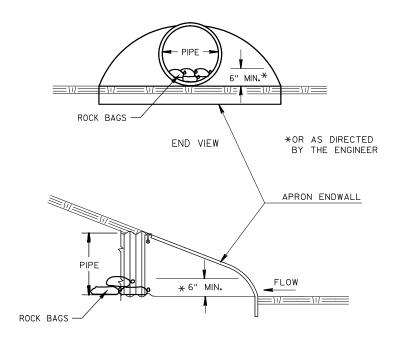


HWY: USH 151 COUNTY: DANE E PROJECT NO:1009-00-76 TYPICAL SECTIONS SHEET PLOT BY : DAVID YAHNKE

2



CONCRETE PAVEMENT JOINT SPACING DETAIL

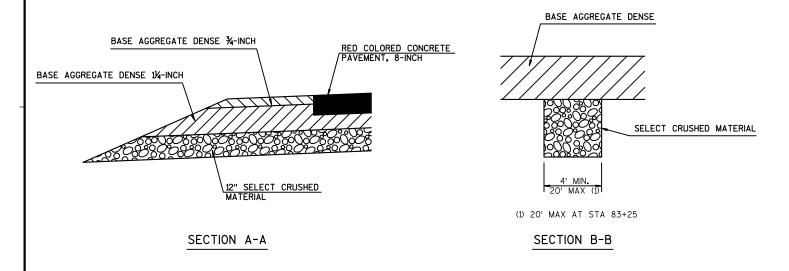


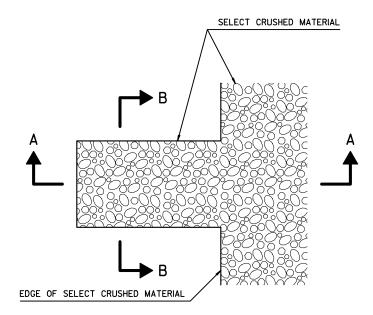
SIDE VIEW

CULVERT PIPE CHECK DETAIL

PLOT NAME :

PROJECT NO:1009-00-76 HWY:USH 151 COUNTY:DANE CONSTRUCTION DETAILS SHEET E





DETAIL FOR FRENCH DRAINS

DRAINS ARE TO BE CONSTRUCTED AT LEAST EVERY 250', AT EACH SAG VERTICAL CURVE IN THE PROFILE AND UP HILL OF LOCATIONS WHERE STORM SEWER BISECTS SELECT CRUSHED MATERIAL.

LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL BE CONSIDERED INCIDENTAL TO THE ITEM SELECT CRUSHED MATERIAL

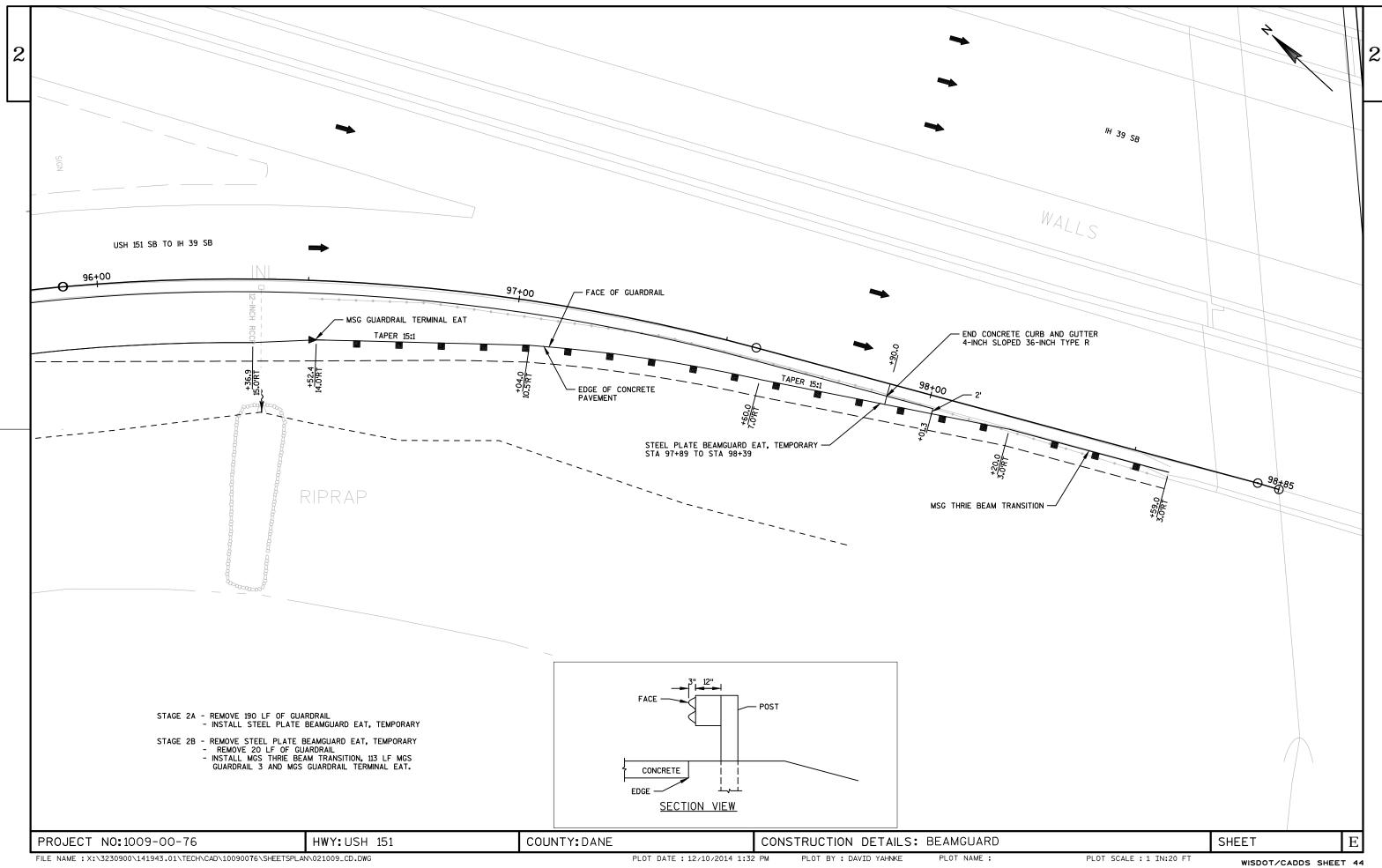
DO NOT COVER DRAINS WITH TOPSOIL

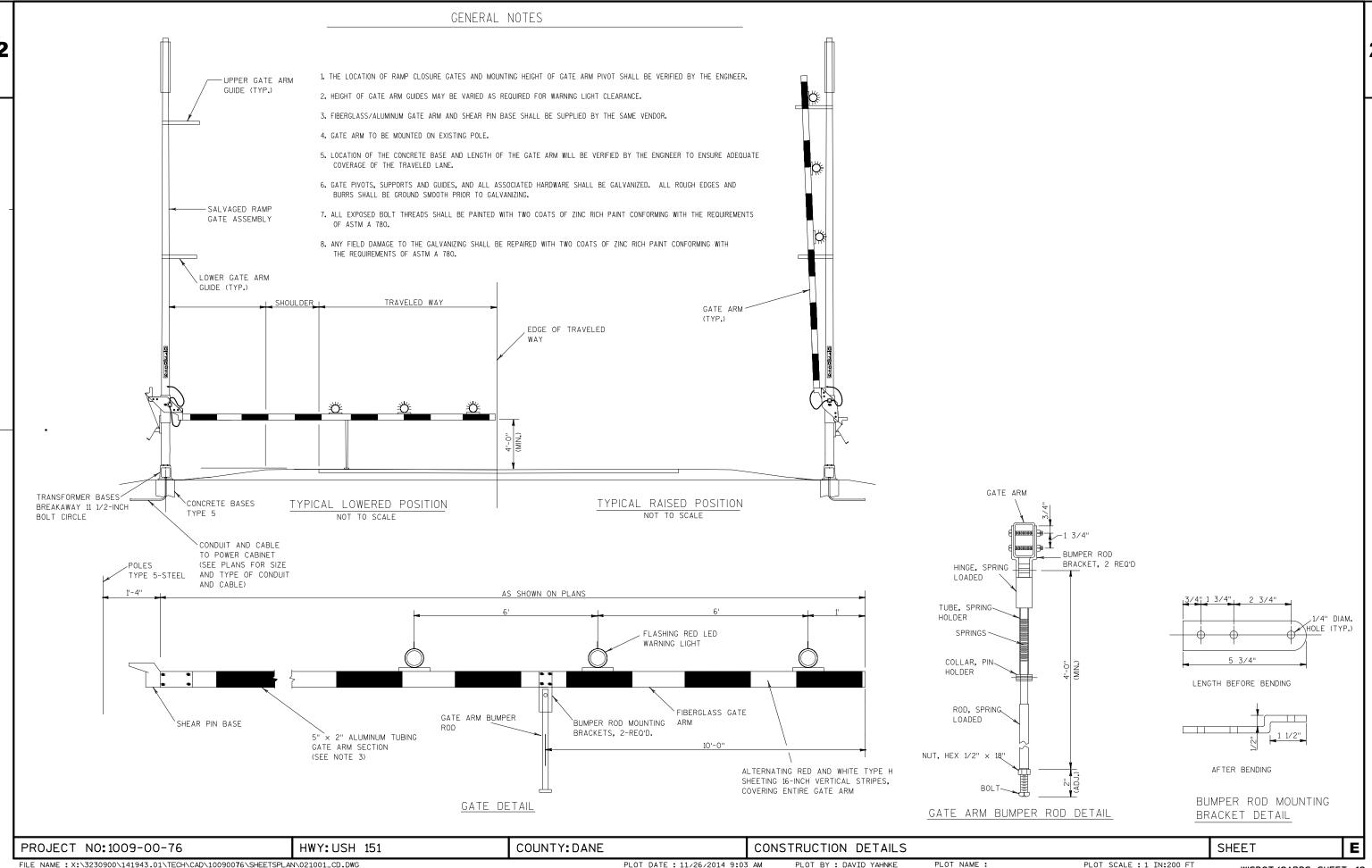
RUNOFF COEFFICIENT TABLE

					HYDROLOGIC SOIL GROUP							
		Α			В		С		D			
	SLOPE	RANGE	(PERCENT)	SL0PE	RANGE	(PERCENT)	SLOPE	RANGE	(PERCENT)	SL0PE	RANGE	(PERCENT)
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
TURF	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE-			.25			.27			.28			.30
TURF			.32			.34			.36			.38
PAVEMENT:												
ASPHALT						.7095						
CONCRETE						.8095						
BRICK						.7080						
DRIVES, WALKS						.7585						
R00FS						.7595						
GRAVEL ROADS,	SHOULDE	ERS				.4060						

TOTAL PROJECT AREA = 6.01 ACRES TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 3.71 ACRES

HWY: USH 151 COUNTY: DANE CONSTRUCTION DETAILS PROJECT NO:1009-00-76 SHEET



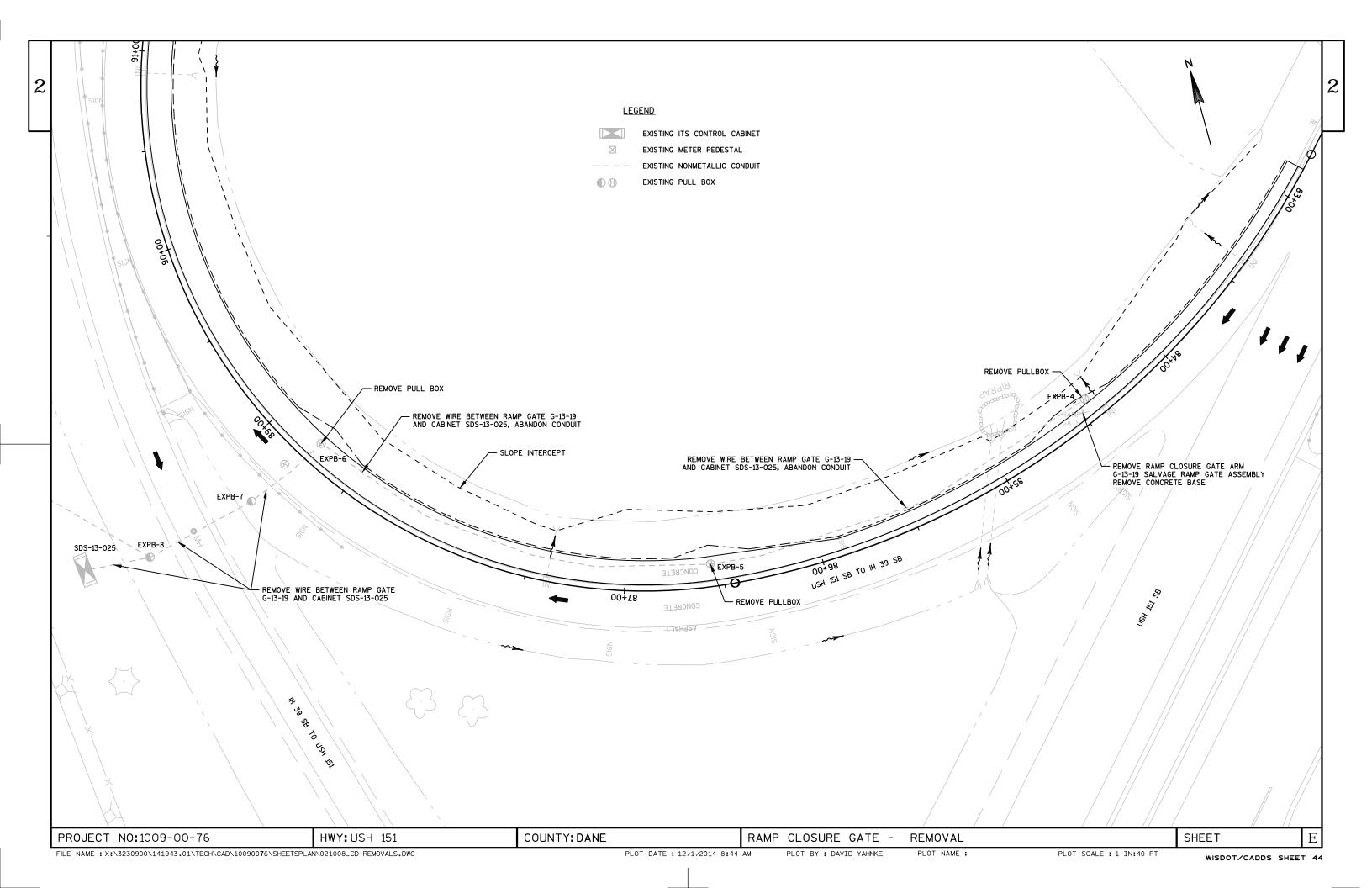


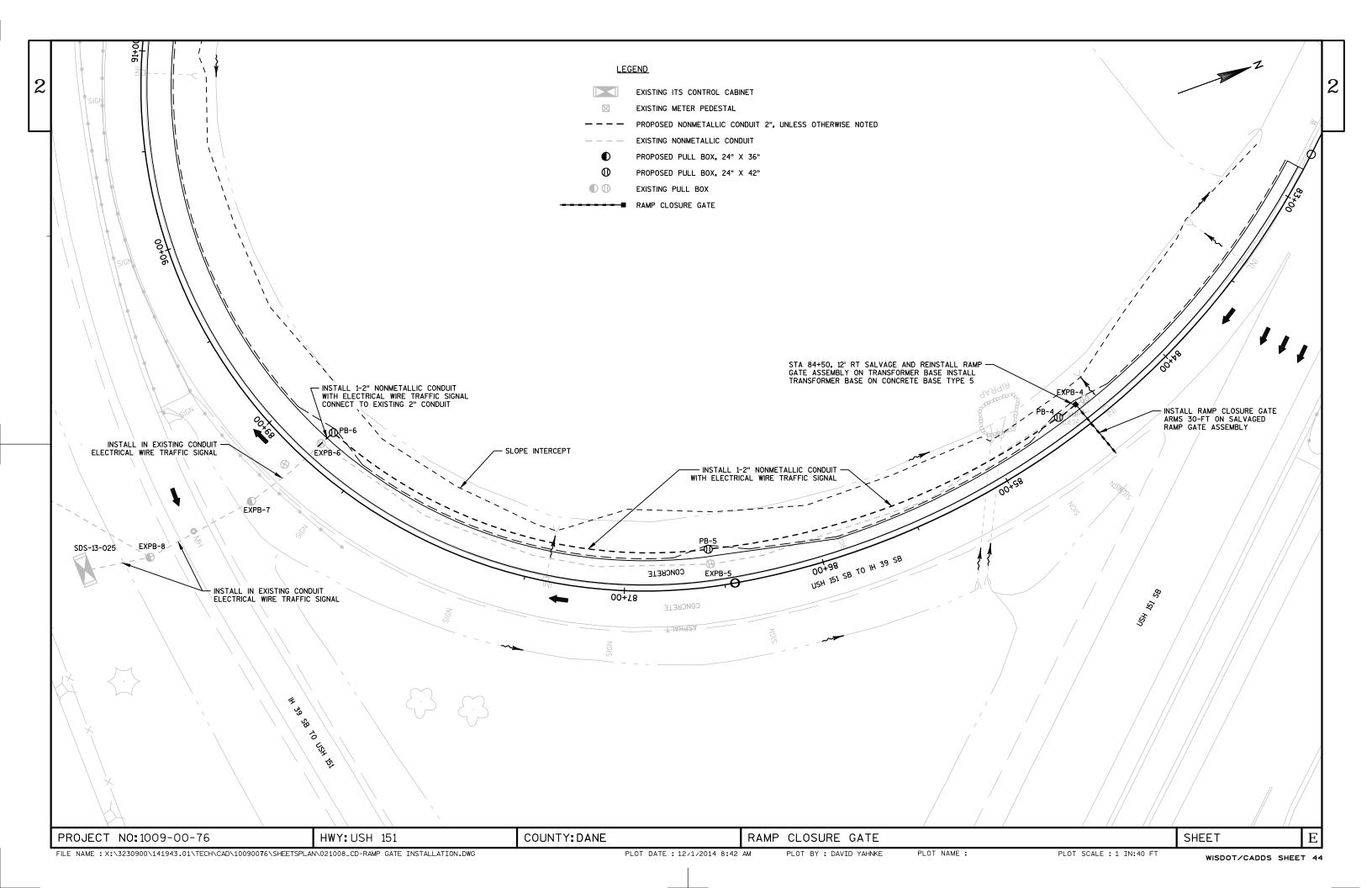
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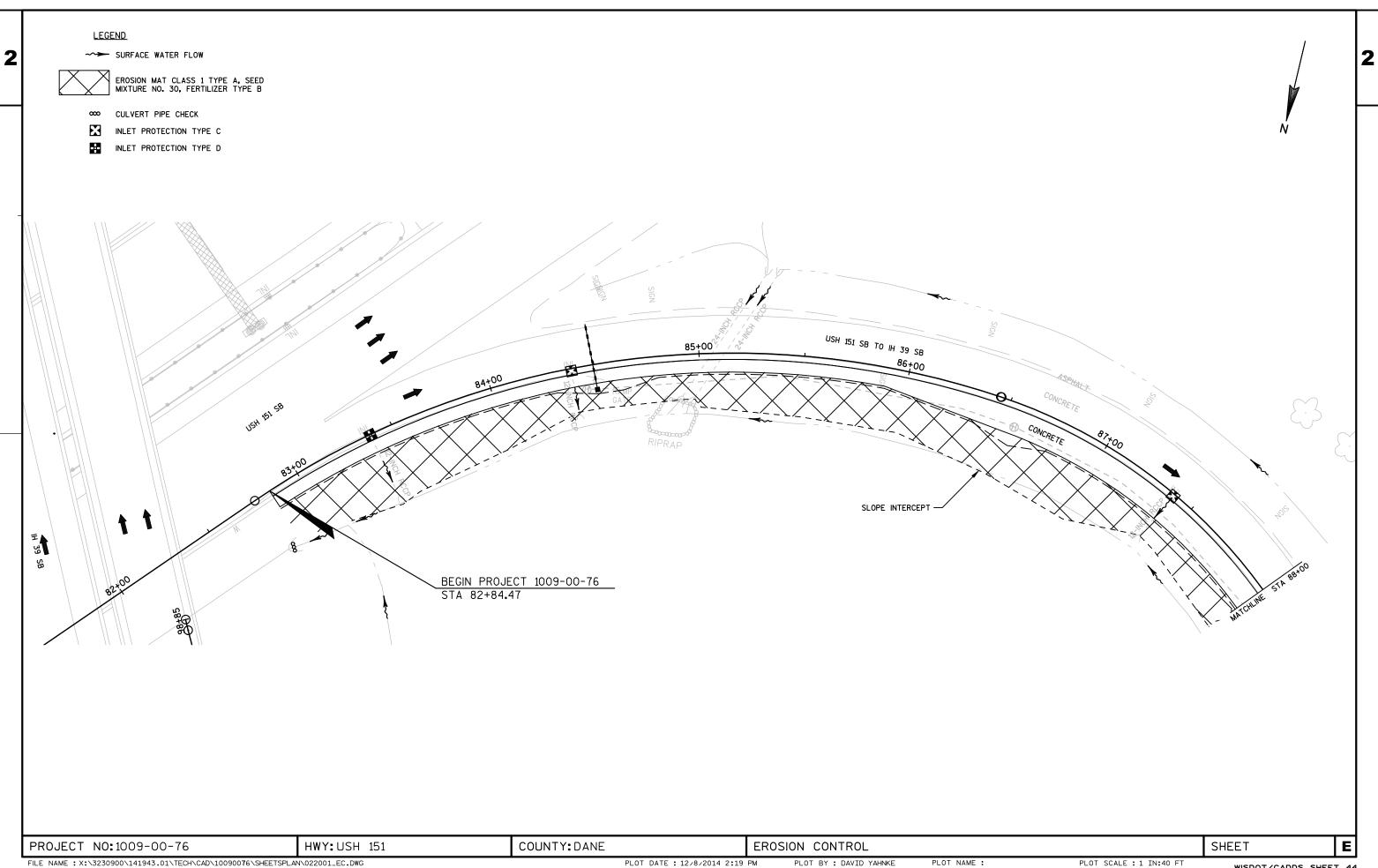
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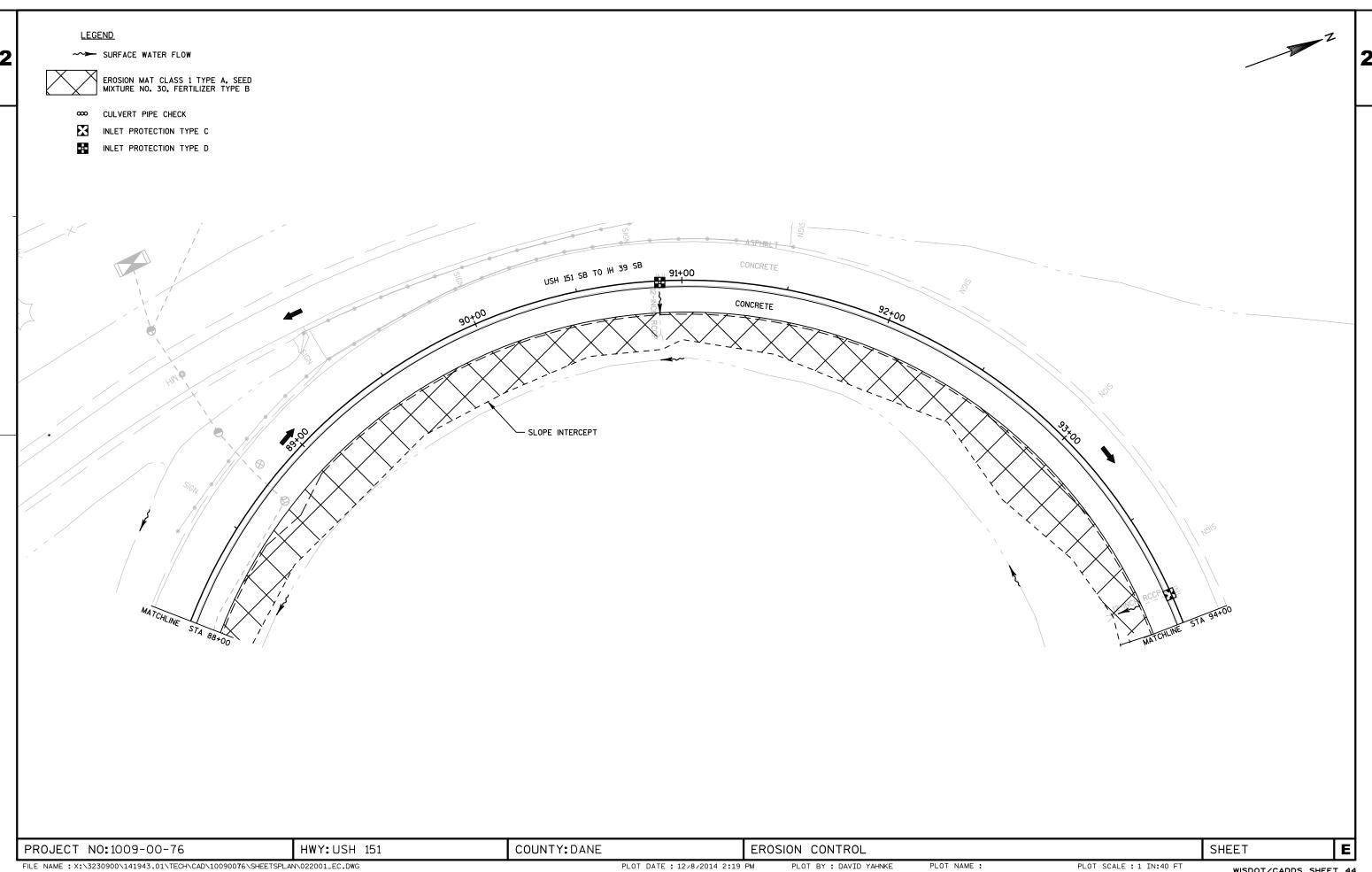
PLOT NAME :

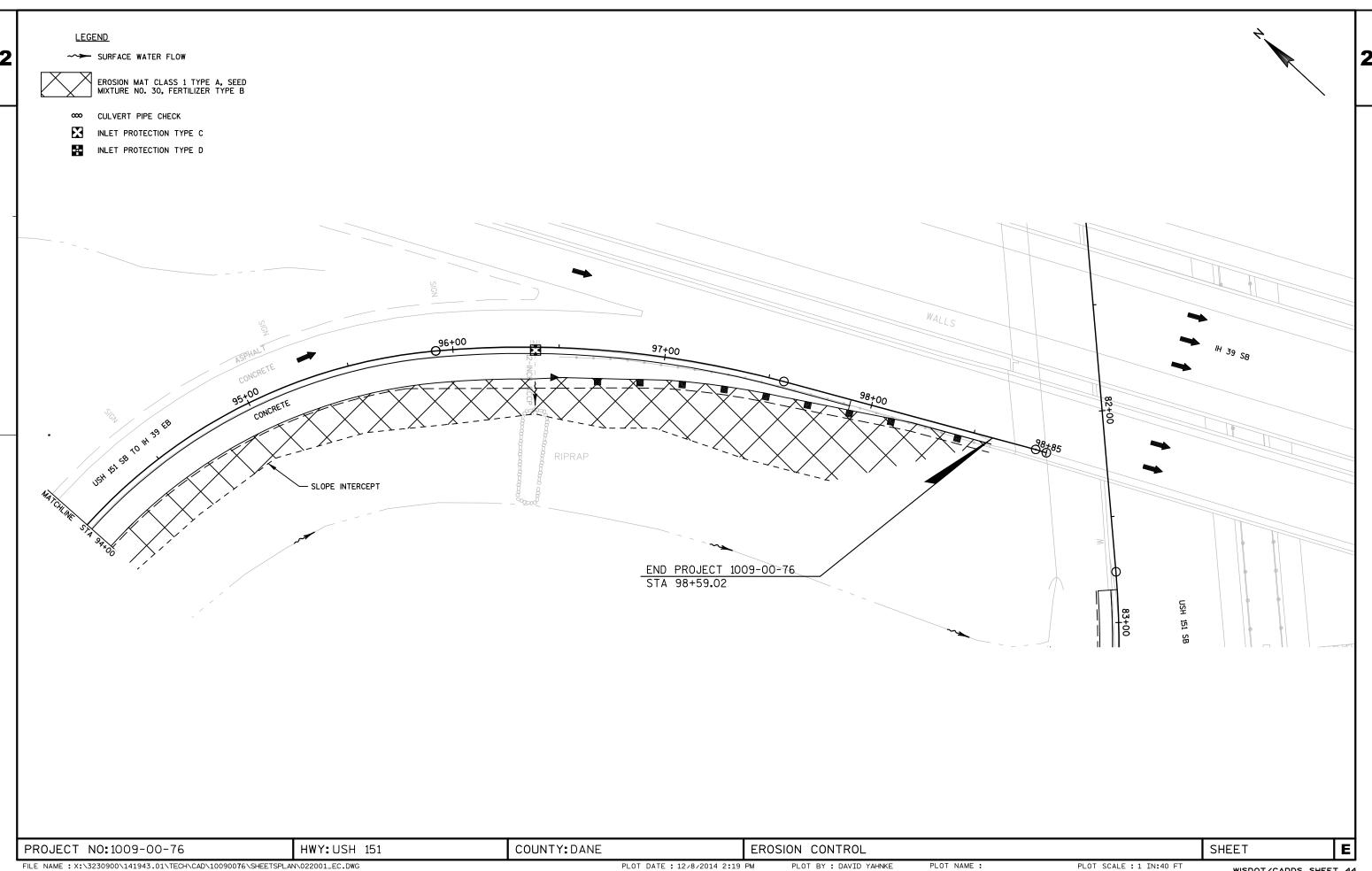
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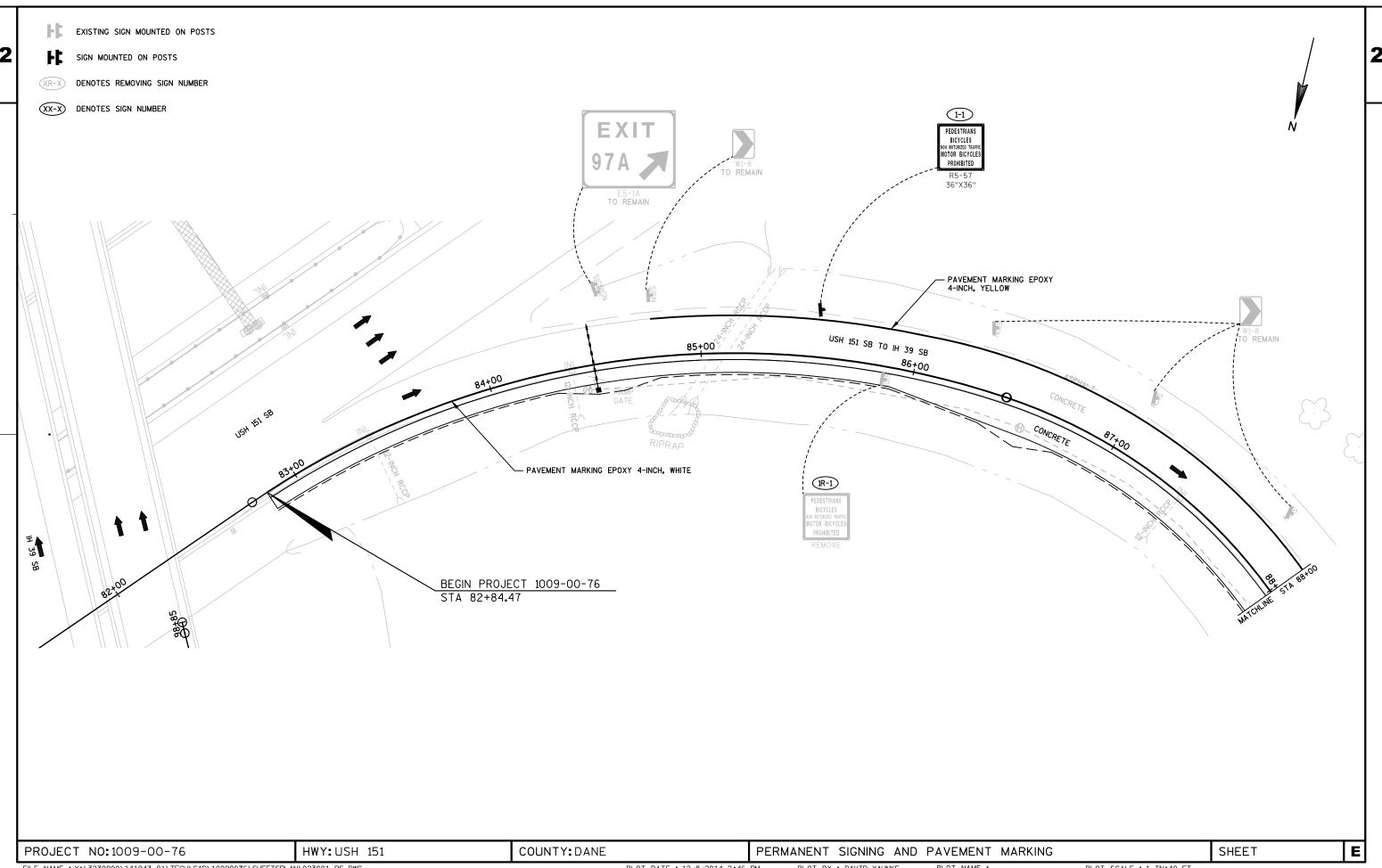








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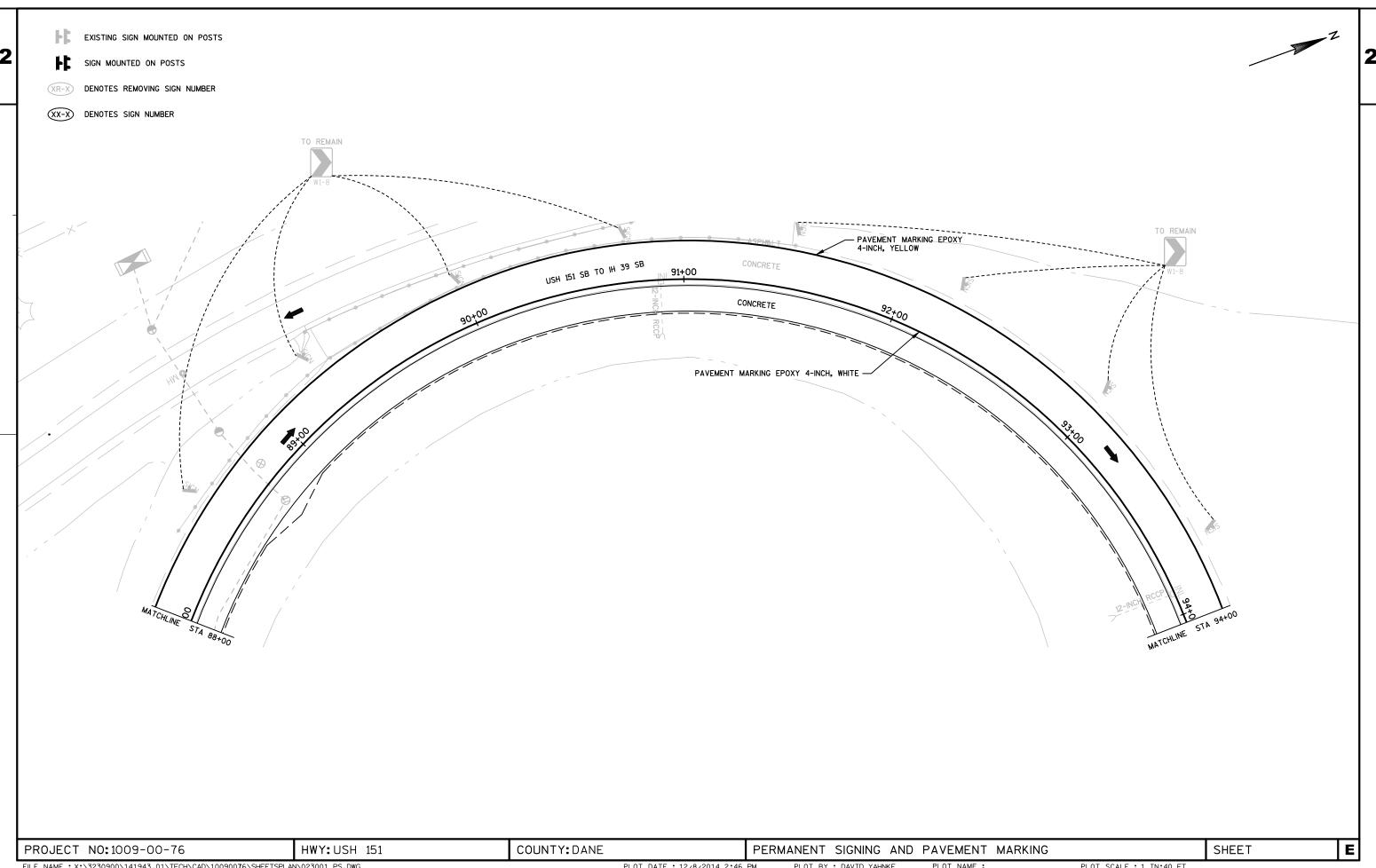
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PLOT DATE: 12/8/2014 2:46 PM

PLOT BY : DAVID YAHNKE

PLOT NAME :

PLOT SCALE : 1 IN:40 FT



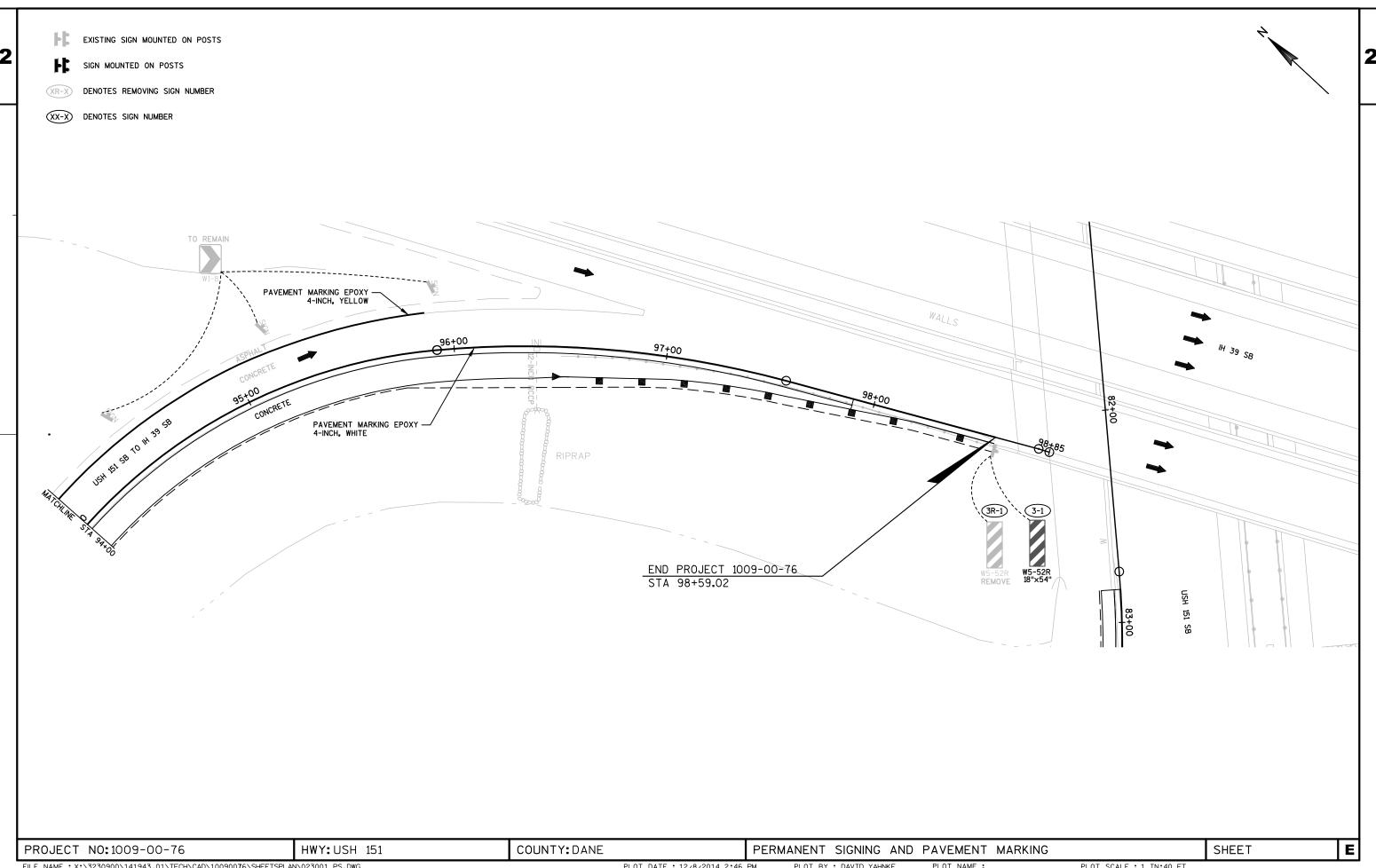
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PLOT DATE: 12/8/2014 2:46 PM

PLOT BY : DAVID YAHNKE

PLOT NAME :

PLOT SCALE : 1 IN:40 FT



FILE NAME : X:\3230900\141943.01\TECH\CAD\10090076\SHEETSPLAN\023001_PS.DWG

PLOT DATE: 12/8/2014 2:46 PM

PLOT BY : DAVID YAHNKE

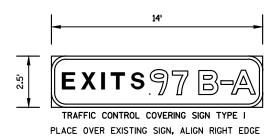
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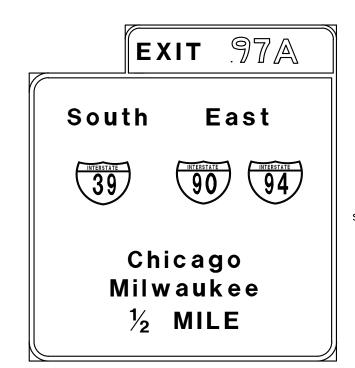
PLOT SCALE : 1 IN:40 FT



FILE NAME : X:\3230900\141943.01\TECH\CAD\10090076\SHEETSPLAN\026001_S2.DWG PLOT DATE : 12/8/2014 3:48 PM PLOT BY : DAVID YAHNKE PLOT NAME : PLOT SCALE : 1 IN:400 FT WISDOT/CADDS SHEET 42

2





SIGN SHOWN FOR INFORMATIONAL PURPOSES ONLY

NOTES:
1. ALL SIGNS ARE TYPE I - TYPE SH REFLECTIVE - REFERENCE WIS DOT STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION LATEST EDITION

2. COLOR: BACKGROUND - ORANGE MESSAGE - BLACK

3. MESSAGE SERIES - E

PROJECT NO:1009-00-76 HWY:USH 151 COUNTY:DANE CONSTRUCTION DETAIL - COVERING SIGN SCALE: SHEET E

NOTES

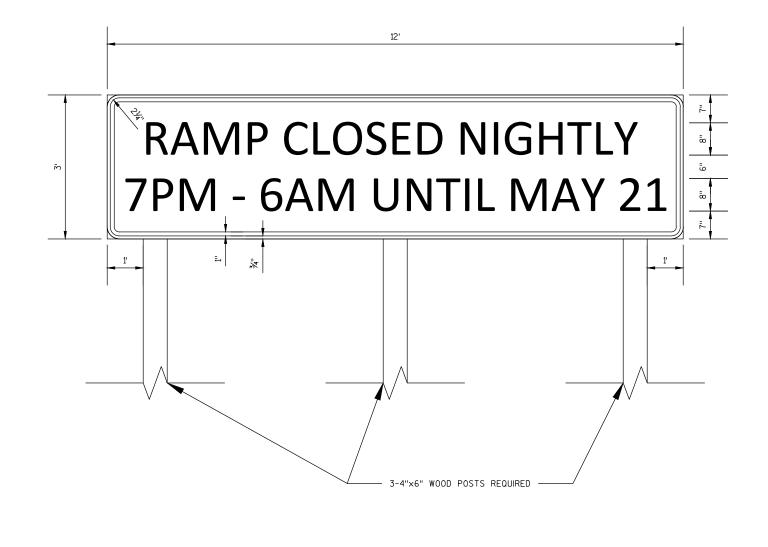
1. SIGN IS TYPE II - TYPE F REFLECTIVE - REFERENCE WISDOT STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION LATEST EDITION.

2. COLOR:

BACKGROUND - ORANGE
MESSAGE - BLACK
MESSAGE SERIES - D
SUBSTITUTE APPROPRIATE NUMERAL AND ADJUST

SUBSTITUTE APPROPRIATE NUMERAL AND ADJUST SPACING TO ACHIEVE PROPER BALANCE.
 AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER SHALL VERIFY EACH SIGN LOCATION.
 CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.
 ALL SIGNS TO BE MOUNTED ON WOODEN POSTS SUPPORTS (4"X6"). 4X6 WOOD POSTS SHALL HAVE TWO HOLES PER STATE PLATE 44-11

TWO HOLES PER STATE PLATE A4-11.



PLOT DATE: 12/15/2014 2:07 PM

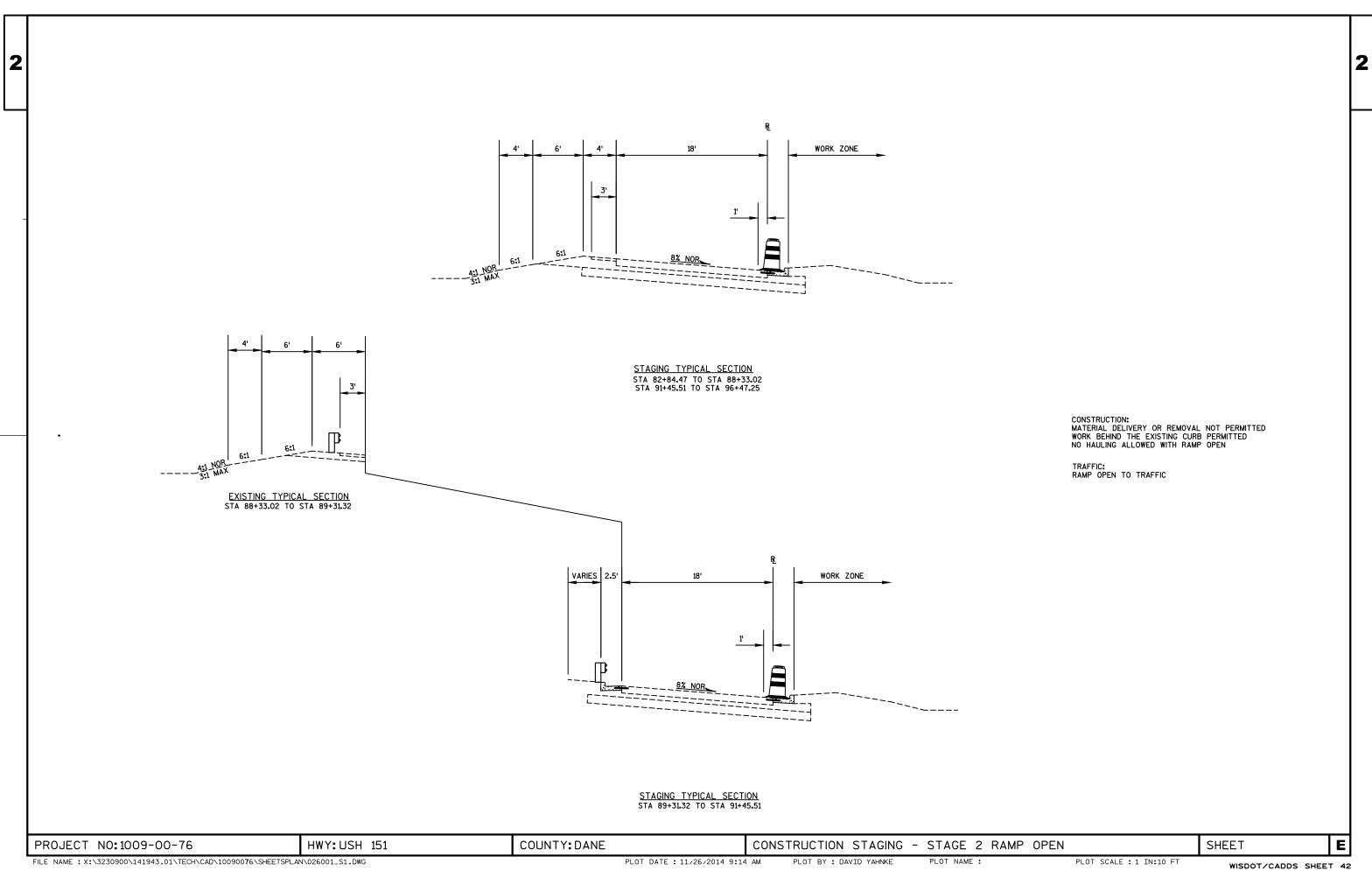
HWY: USH 151 PROJECT NO:1009-00-76

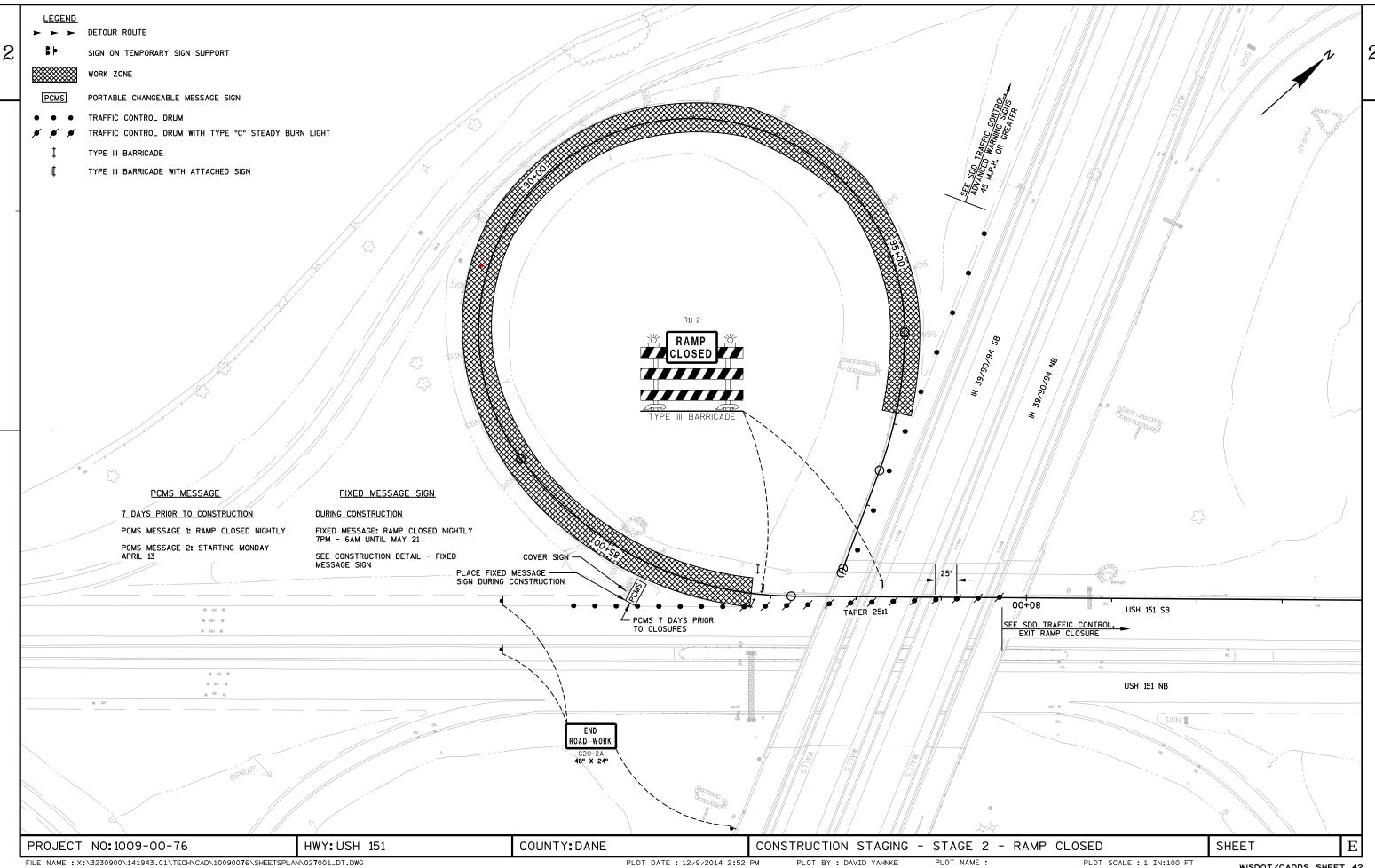
COUNTY: DANE

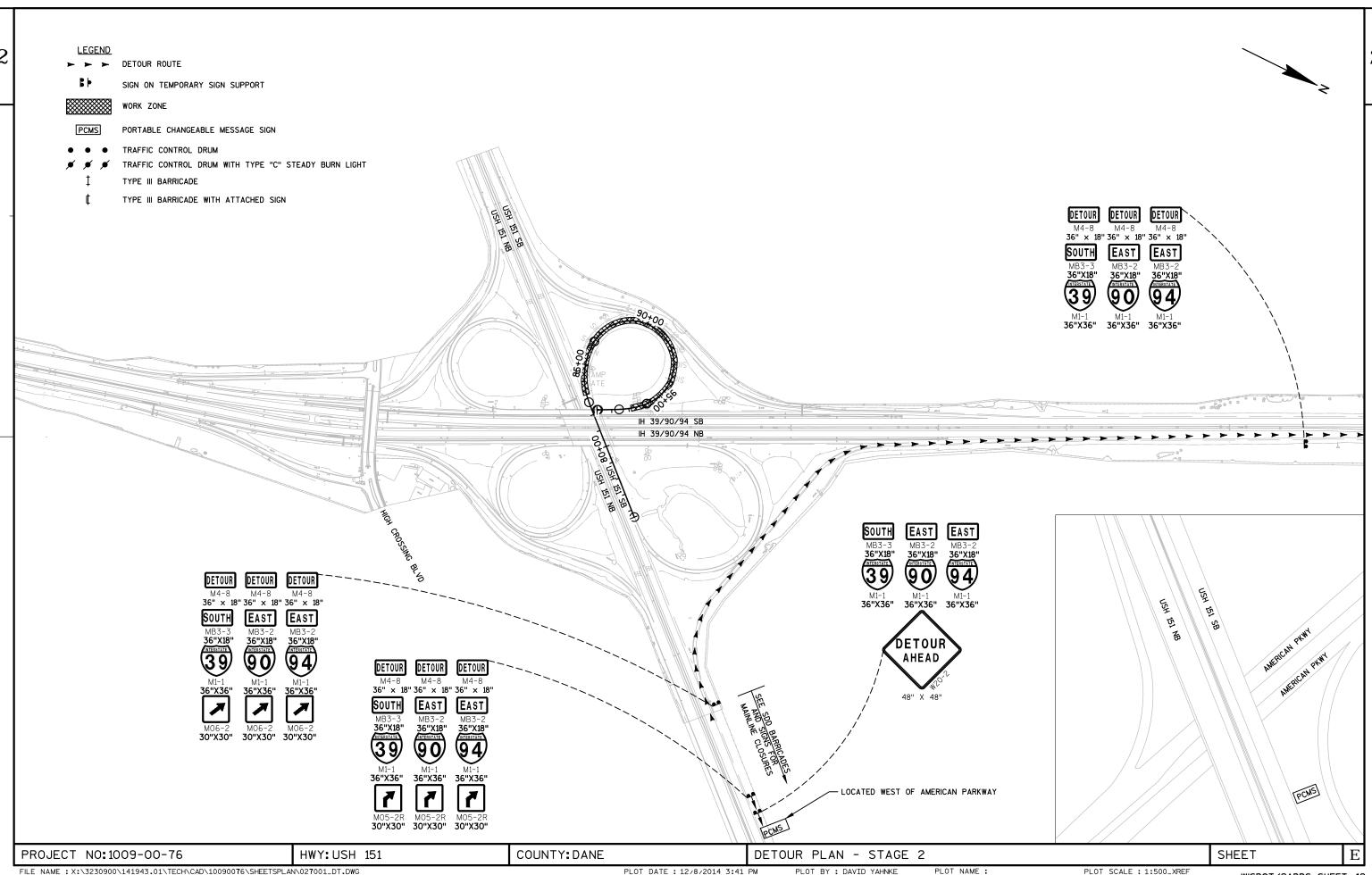
CONSTRUCTION DETAILS -FIXED MESSAGE SIGN

SHEET

E

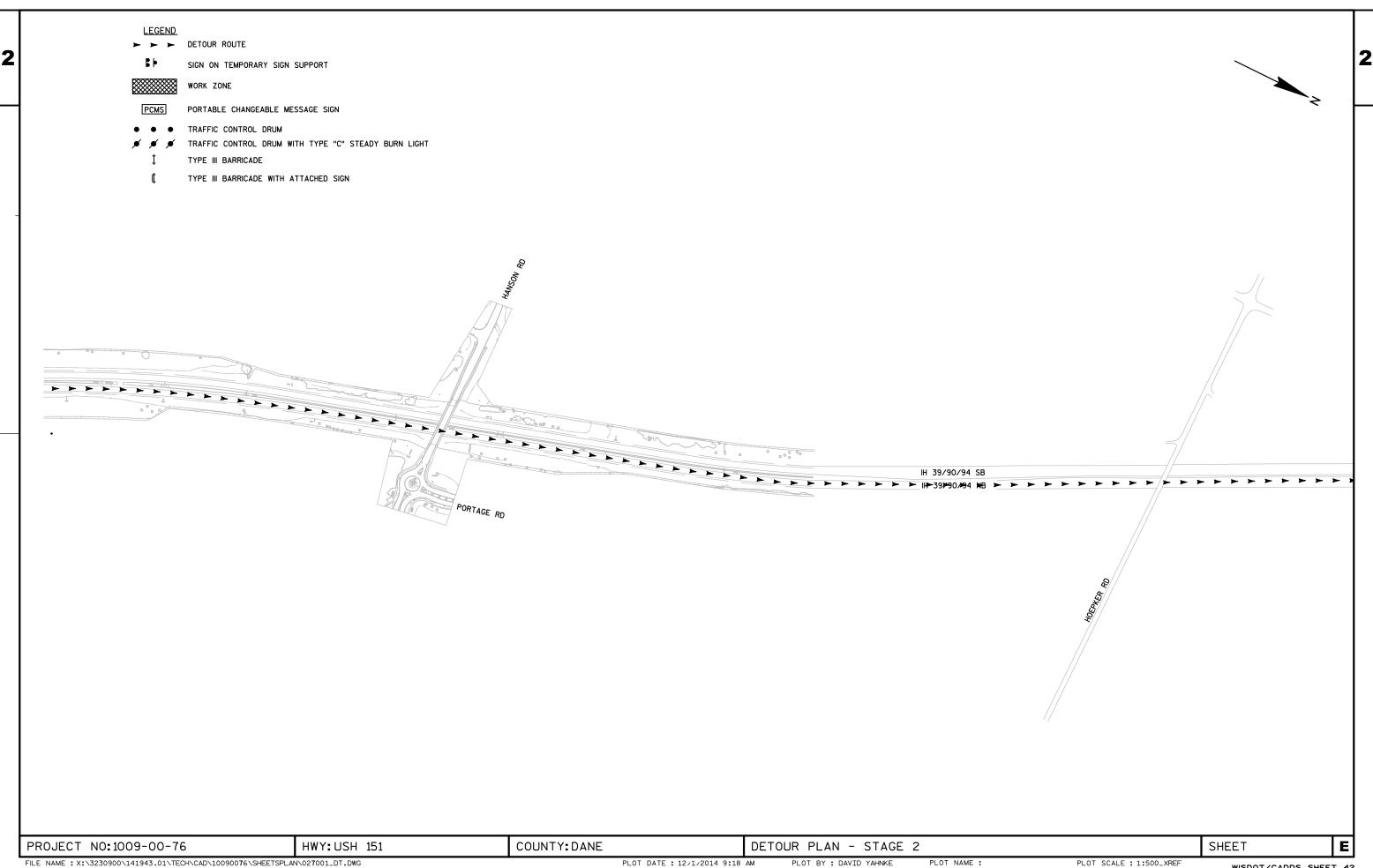


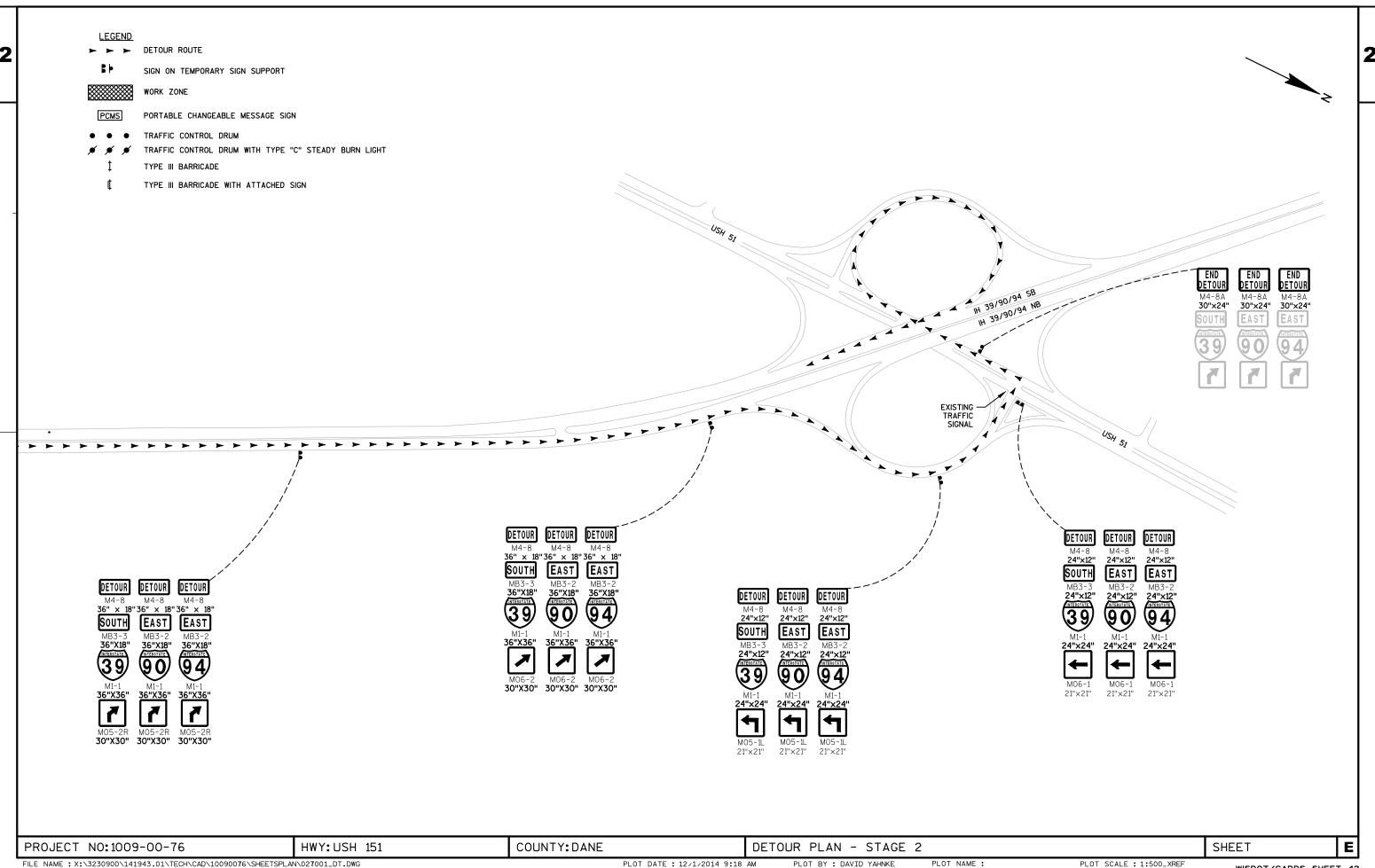




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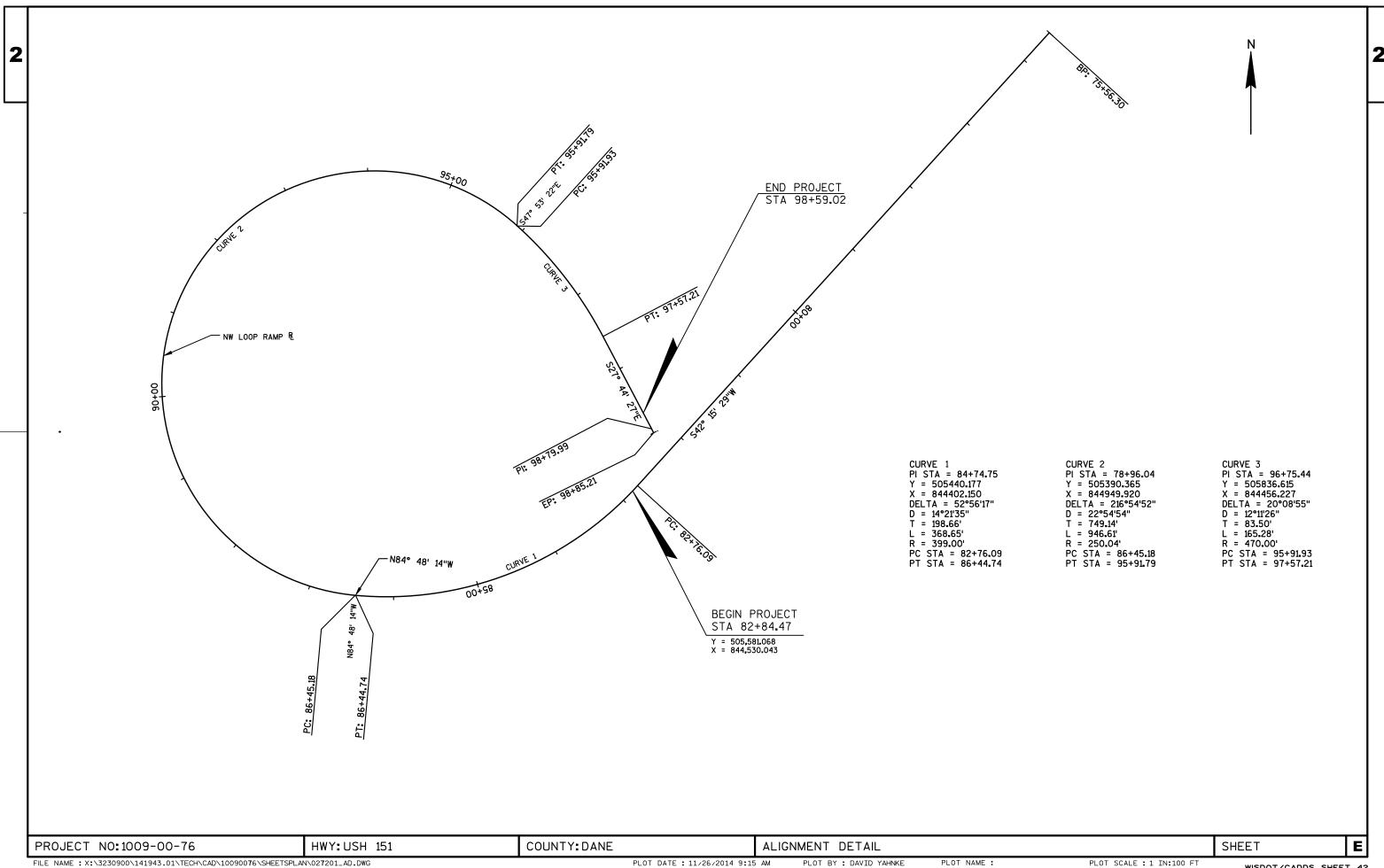
PLOT DATE: 12/8/2014 3:41 PM





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PLOT DATE: 12/1/2014 9:18 AM



FILE NAME : X:\3230900\141943.01\TECH\CAD\10090076\SHEETSPLAN\027201_AD.DWG

PLOT DATE: 11/26/2014 9:15 AM

3

DATE 15	DEC14	E S T	ГІМАТЕ	OF QUAN	TITIES
LINE					1009-00-76
NUMBER		I TEM DESCRIPTION	UNI T	TOTAL	QUANTI TY
0510	643. 0300	TRAFFIC CONTROL DRUMS	DAY	2, 644. 000	2, 644. 000
0520	643. 0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	24. 000	24. 000
0530	643. 0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	24.000	24. 000
0540	643. 0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	346.000	346. 000
0550	643. 0800	TRAFFIC CONTROL ARROW BOARDS	DAY	6. 000	6. 000
0560	643. 0900	TRAFFIC CONTROL SIGNS	DAY	395.000	395.000
0570	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	1. 000	1.000
0580	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	20.000	20.000
0590	643. 1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	71. 000	71. 000
0600	643. 1050	TRAFFIC CONTROL SIGNS PCMS	DAY	92. 000	92. 000
0610	643. 2000	TRAFFIC CONTROL DETOUR (PROJECT) 01.	EACH	1. 000	1. 000
0620	643. 3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	3, 549. 000	3, 549. 000
0630	646. 0106	PAVEMENT MARKING EPOXY 4-INCH	LF.	2, 690. 000	2, 690. 000
0640	650. 4000	CONSTRUCTION STAKING STORM SEWER	EACH	1. 000	1. 000
0650	650. 4500	CONSTRUCTION STAKING SUBGRADE	LF	1, 506. 000	1, 506. 000
0660	650. 7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	1, 506. 000	1, 506. 000
0670	650. 8500	CONSTRUCTION STAKING CONCRETE PAVEMENT	LS	1, 300, 000	1, 300. 000
0070	030. 0300	INSTALLATIONS (PROJECT) 01. 1009-00-76	LJ	1.000	1.000
0680	650. 9910	CONSTRUCTION STAKING SUPPLEMENTAL	LS	1. 000	1. 000
2000		CONTROL (PROJECT) 01. 1009-00-76	_0	555	550
0690	650. 9920	CONSTRUCTION STAKING SLOPE STAKES	LF	1, 575. 000	1, 575. 000
0700	652. 0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40	LF	400.000	400.000
		2-I NCH			
0710	653. 0140	PULL BOXES STEEL 24X42-INCH	EACH	3. 000	3. 000
0710	653. 0140	REMOVING PULL BOXES	EACH	3. 000	3. 000
0720	654. 0105	CONCRETE BASES TYPE 5	EACH	1. 000	1. 000
0730	655. 0515	ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	LF	1, 800. 000	1, 800. 000
0750	657. 0255	TRANSFORMER BASES BREAKAWAY 11 1/2-I NCH	EACH	1, 000	1. 000
0.00	337. 3200	BOLT CIRCLE		1. 000	1. 000
0760	662, 3030, 9	S RAMP CLOSURE GATE ARMS STOCKPILE 30-FT	EACH	1. 000	1. 000
0770	674. 0300	REMOVE CABLE	LF	1, 800. 000	1, 800. 000
0770	690. 0250	SAWI NG CONCRETE	LF	1, 506. 000	1, 506. 000
0790	715. 0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	500.000	500. 000
0800	SPV. 0060	SPECIAL 01. SALVAGE AND REINSTALL RAMP	EACH	1. 000	1. 000
3000		GATE ASSEMBLY	_,	555	550
0810	SPV. 0060	SPECIAL 02. RAMP CLOSURE GATE ARMS 30-FT	EACH	1. 000	1.000

REMOVING	CURB	AND	GUT	ΓER

•					
					204.0150
					REMOVING CURE
					AND GUTTER
	STATION	-	STATION	LOCATION	(LF)
	82+84	-	97+90	RT	1506
				TOTAL	1506

REMOVING GUARDRAIL

TEMOTING CONTROL		
		204.0165
		REMOVING
		GUARDRAI
STATION - STATION	LOCATION	(LF)
96+50.25 - 98+59.02	RT	210
	TOTAL	210

DELINEATORS AND MARKERS

		204.0180	633.0100	633.0500
		REMOVING	DELINEATOR	
		DELINEATORS	POSTS	DELINEATOR
		AND MARKERS	STEEL	REFLECTORS
STATION - STATIC	N LOCATION	(EACH)	(EACH)	(EACH)
83+39	RT	1		
96+83 - 97+90	RT	2	2	4
_	TOTAL	3	2	4

BASE AGGREGATE DENSE

	, <u>_</u>			
			305.0110	305.0120
			BASE	BASE
			AGGREGATE	AGGREGATE
			DENSE	DENSE
			3/4-INCH	1 1/4-INCH
STATION -	STATION	LOCATION	(TON)	(TON)
82+84 -	97+90	RT	250	1345
		TOTAL	250	1345

SELECT CRUSHED MATERIAL

		•	
_	_		312.0110
			SELECT
			CRUSHED
			MATERIAL
STATION -	STATION	LOCATION	(TON)
82+84 -	97+90	RT	1110
		TOTAL	1110

CONCRETE PAVEMENT

			405.0100	415.0080
			COLORING	CONCRETE
			CONCRETE	PAVEMENT
			RED	8-INCH
STATION -	STATION	LOCATION	(CY)	(SY)
82+84 -	97+90	RT	370	1655
		TOTAL	370	1655

DRILLED TIE BARS

				416.0610
				DRILLED
				TIE
				BARS
STATION	-	STATION	LOCATION	(EACH)
82+84	-	97+90	RT	600
			TOTAL	600

CULVERT PIPE SUMMARY

OLVERI FIFE	SUMMANI			
		204.0245	520.8000	524.0612
		REMOVING	CONCRETE	APRON ENDWALLS
		STORM	COLLARS	FOR CULVERT
		SEWER	FOR	PIPE SALVAGED
		12-INCH	PIPE	12-INCH
STATION	LOCATION	(LF)	(EACH)	(EACH)
83+39	RT	13	1	1
	TOTAL	13	1	1

CONCRETE CURB & GUTTER

				601.0580
				CONCRETE CURB
				& GUTTER
				4-INCH SLOPED
				36-INCH TYPE R
STATION	-	STATION	LOCATION	(LF)
82+84	-	97+90	RT	1506
			TOTAL	1506

INLET SUMMARY

LI SUMMAN				
_		611.0430	611.0652	611.8120.S
			INLET	COVER
		RECONSTRUCTING	COVERS	PLATES
		INLETS	TYPE T	TEMPORARY
STATION	LOCATION	(EACH)	(EACH)	(EACH)
83+39	RT	1	1	1
84+39	RT	1	1	1
87+39	RT	1	1	1
90+89	RT	1	1	1
93+98	RT	1	1	1
96+39	RT	1	1	1
	TOTAL	6	6	6

PROJECT NO: 1009-00-76

HWY: USH 151

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

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EARTHWORK SUMMARY

LARTINOTAL	0011111	iii-iii										
				205.01 COMMON EXC								
STATION	_	STATION	LOCATION	(1) CUT FROM EW DATA (CY)	(2) EBS (CY)	(3) REDUCED EBS IN FILL FACTOR = 0.8 (CY)	(4) EXPANDED EBS BACKFILL FACTOR = 1.3 (CY)	(5) EXPANDED FILL FROM EW DATA (CY)	(6) EXPANDED FILL (CY)	(7) MASS ORDINATE (CY)	(8) BORROW (CY)	WASTE (CY)
82+85	-	97+90	RAMP	2813				6	6	2807		2807
			TOTAL	2813				6	6	2807		2807
			TOTAL	<u>2813</u> 2813				6	6	2807		_

(1) COMMON FROM COMPUTER EARTHWORK DATA

(2) UNDISTRIBUTED EBS

EBS AREAS TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL EBS IS ESTIMATED AS AN UNDISTRIBUTED QUANTITY

EBS QUANTITIES ARE USED IN EARTHWORK BALANCE

(3) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 0.8

(4) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL

(5) EXPANDED FILL FROM COMPUTER EARTHWORK DATA

(6) EXPANDED FILL. FACTOR = 1.3

EXPANDED FILL = EW DATA FILL - REDUCED EBS IN FILL

(7) MASS ORDINATE IS + OR - QUANTITY FOR STAGE . PLUS IS EXCESS, MINUS IS SHORTAGE.

NOTE: EXCAVATION MAY BE WASTED ON RAMP INFIELD

PROJECT NO: 1009-00-76 HWY: USH 151 COUNTY: DANE MISCELLANEOUS QUANTITIES SHEET **E**

GUARDRAIL

	-	-	614.2300	614.2500	614.2610	614.0380
			MGS	MGS	MGS	STEEL PLATE
			GUARDRAIL	THRIE BEAM	GUARDRAIL	BEAM GUARD
			3	TRANSITION	TERMINAL EAT	EAT, TEMPORARY
STATION	STATION	LOCATION	(LF)	(LF)	(EACH)	(EACH)
96+50	- 98+59	RT	113	39	1	1
	•	TOTAL	113	39	1	1

EROSION CONTROL SUMMARY

	• • • • • • • • • • • • • • • • • • • •																	
		624.0100	625.0500	627.0200	628.1504	628.1520	629.1905	629.1910	628.2002	628.7015	628.7020	628.7555	628.7504	628.7560	629.0210	630.0120	630.0130	630.0200
								MOBILIZATIONS										
							MOBILIZATIONS	EMERGENCY	EROSION MAT	INLET	INLET	CULVERT	TEMPORARY			SEEDING	SEEDING	
			SALVAGED)	SILT	SILT FENCE	EROSION	EROSION	CLASS I	PROTECTION	PROTECTION	PIPE	DITCH	TRACKING	FERTILIZER	MIXTURE	MIXTURE	SEEDING
		WATER	TOPSOIL	MULCHING	FENCE	MAINTENANCE	CONTROL	CONTROL	TYPE A	TYPE C	TYPE D	CHECKS	CHECKS	PADS	TYPE B	NO. 20	NO. 30	TEMPORARY
STATION - STA	TION LOCATION	(MGAL)	(SY)	(SY)	(LF)	(LF)	(EACH)	(EACH)	(SY)	(EACH)	(EACH)	(EACH)	(LF)	(EACH)	(CWT)	(LB)	(LB)	(LB)
82+84 - 98-	+59 RT	40	3250				2	2	3250					1	2.05		60	90
82+40	RT											5						
83+39	RT										1							
84+39	RT									1								
87+39	RT									1								
90+89	RT										1							
93+98	RT									1								
96+39	RT									1								
WASTE SITE	RT			2800	1200	1200									1.75	75		75
UNDISTRIBUTED)	10	800		150	150			800				20		0.5		15	25
	TOTAL	50	4050	2800	1350	1350	2	2	4050	4	2	5	20	1	4 30	75	75	190

CULVERT MARKERS

		633.5200
		MARKERS
		CULVERT
		END
STATION	LOCATION	(EACH)
83+39	RT	1
	TOTAL	1

PERMANENT SIGNING TYPE II

			634.0614	637.2210	637.2230	
			POSTS	SIGNS	SIGNS	
			WOOD	TYPE II	TYPE II	
SIGN	SIGN		4x6-INCH X 14-FT	REFLECTIVE H	REFLECTIVE F	
NUMBER	CODE	SIGN SIZE	(EACH)	(SF)	(SF)	REMARKS
1-1	R5-57	36 x 36	1	9.00		PEDESTRIANS BICYCLES PROHIBITED
3-1	W5-52R	18 x 54	1		6.75	CLEARANCE STRIPER DOWN LEFT
	TC	TAL	2	9.00	6.75	

REMOVING SIGNING

		638.2602	638.3000	
		REMOVING	REMOVING	
		SIGNS	SMALL SIGN	
SIGN	SIGN	TYPE II	SUPPORTS	
NUMBER	CODE	(EACH)	(EACH)	REMARKS
1R-1	R5-57	1	1	PEDESTRIANS BICYCLES PROHIBITED
3R-1	W5-52R	1	1	CLEARANCE STRIPER DOWN LEFT
	TOTAL	2	2	

PROJECT NO: 1009-00-76

HWY: USH 151

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

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X:\23046-00\100034.04\TECH\Misc Quantities

PLOT SCALE: 100.0:1.0

1575

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7

TRAFFIC CONTROL SUMMARY												
	643.0300	643.0420	643.0705	643.0715	643.0800	643.0900	643.0910	* 643.0920	643.1000	643.1050	643.2000	643.3000
		TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC		TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC
	TRAFFIC	CONTROL	CONTROL	CONTROL	CONTROL	TRAFFIC	CONTROL	CONTROL	CONTROL SIGNS	CONTROL	CONTROL	CONTROL
	CONTROL	BARRICADES	WARNING	WARNING	ARROW	CONTROL	COVERING	COVERING	FIXED	SIGNS	DETOUR	DETOUR
	DRUMS	TYPE III	LIGHTS TYPE A	LIGHTS TYPE C	BOARDS	SIGNS	SIGNS TYPE I	SIGNS TYPE II	MESSAGE	PCMS	(PROJECT)	SIGNS
LOCATION	(DAY)	(DAY)	(DAY)	(DAY)	(DAY)	(DAY)	(EACH)	(EACH)	(SF)	(DAY)	(EACH)	(DAY)
STAGE 1	111	2	2	33	3	22	1		35	7		
STAGE 2	2422	20	20	280		351		20	36	85		3549
STAGE 3	111	2	2	33	3	22						
PROJECT											1	
TOTAL	2,644	24	24	346	6	395	1	20	71	92	1	3549

* 1 SIGN @ 20 CLOSURE CYCLES = 20 EACH

PAVEMENT	MARKINGS
----------	----------

					646.	0106
					PAVE	MENT
					MARKIN	G EPOXY
					4-11	NCH
					(WHITE)	(YELLOW)
_	STATION	-	STATION	LOCATION	(LF)	(LF)
	82+84	-	98+59	RT	1575	
_	84+75	-	95+90	LT		1115
				TOTAL	26	690

			650.4000	650.4500	650.7000	650.8500	650.9910	650.9920
						CONSTRUCTION	CONSTRUCTION	
			CONSTRUCTION		CONSTRUCTION	STAKING	STAKING	CONSTRUCTION
			STAKING	CONSTRUCTION	STAKING	ELECTRICAL	SUPPLEMENTAL	STAKING
			STORM	STAKING	CONCRETE	INSTALLATIONS .01	CONTROL .01	SLOPE
			SEWER	SUBGRADE	PAVEMENT	1009-00-76	1009-00-76	STAKES
STATION -	STATION	LOCATION	(EACH)	(LF)	(LF)	(PROJECT)	(PROJECT)	(LF)
82+84 -	98+59	RT						1575
82+84 -	97+90	RT		1506	1506	1	1	
83+39		RT	1					

1506

1506

PULL BOXES STEEL

		653.0140	653.0905
		PULL BOXES	REMOVING
		STEEL	PULL
		24X42-INCH	BOXES
NO.	LOCATION	(EACH)	(EACH)
PB-4	SB USH 151 TO SB 1-39 ON RAMP	1	
PB-5	SB USH 151 TO SB 1-39 ON RAMP	1	
PB-6	SB USH 151 TO SB 1-39 ON RAMP	1	
EXPB-4	SB USH 151 TO SB 1-39 ON RAMP		1
EXPB-5	SB USH 151 TO SB 1-39 ON RAMP		1
EXPB-6	SB USH 151 TO SB 1-39 ON RAMP		1
	TOTAL	3	3

RAMP CLOSURE GATES	
--------------------	--

TOTAL

7.0255 SPV.0060.01 SPV.0060.02 662.3030.S
FORMER RAMP CLOSURE
SES SALVAGE AND GATE
KAWAY REINSTALL RAMP RAMP CLOSURE ARMS
2-INCH GATE GATE ARMS STOCKPILE
CIRCLE ASSEMBLY 30-FT 30-FT
ACH) (EACH) (EACH) (EACH)
1 1 1
1 1 1
S A A

CONDUIT

		652.0225
		CONDUIT RIGID
		NONMETALLIC
		SCHEDULE 40
		2-INCH
FROM	TO	(LF)
G13-19	PB-4	10
PB-4	PB-5	190
PB-5	PB-6	190
PB-6	EXPB-6	10
	TOTAL	400

ELECTRICAL WIRE TRAFFIC SIGNALS

ELECTRICAL WIRE TRAFFIC SIGNALS					
		655.0515	655.0515	674.0300	
		ELECTRICAL	ELECTRICAL WIRE		
		WIRE	TRAFFIC SIGNALS 10 AWG		
		TRAFFIC SIGNALS	(EQUIPMENT GROUNDING)		
		10 AWG	(CONDUCTOR)	REMOVE	
		(BLACK)	(GREEN)	CABLE	
FROM	TO	(LF)	(LF)	(LF)	
G13-19	SDS-13-025	1,200	600	1,800	
	TOTAL	1,200	600	1,800	
			1.800		

SAWING SUMMARY

				690.0250
				SAWING
				CONCRETE
STATION	-	STATION	LOCATION	(LF)
82+84	-	97+90	RT	1506
			TOTAL	1506

PROJECT NO: 1009-00-76

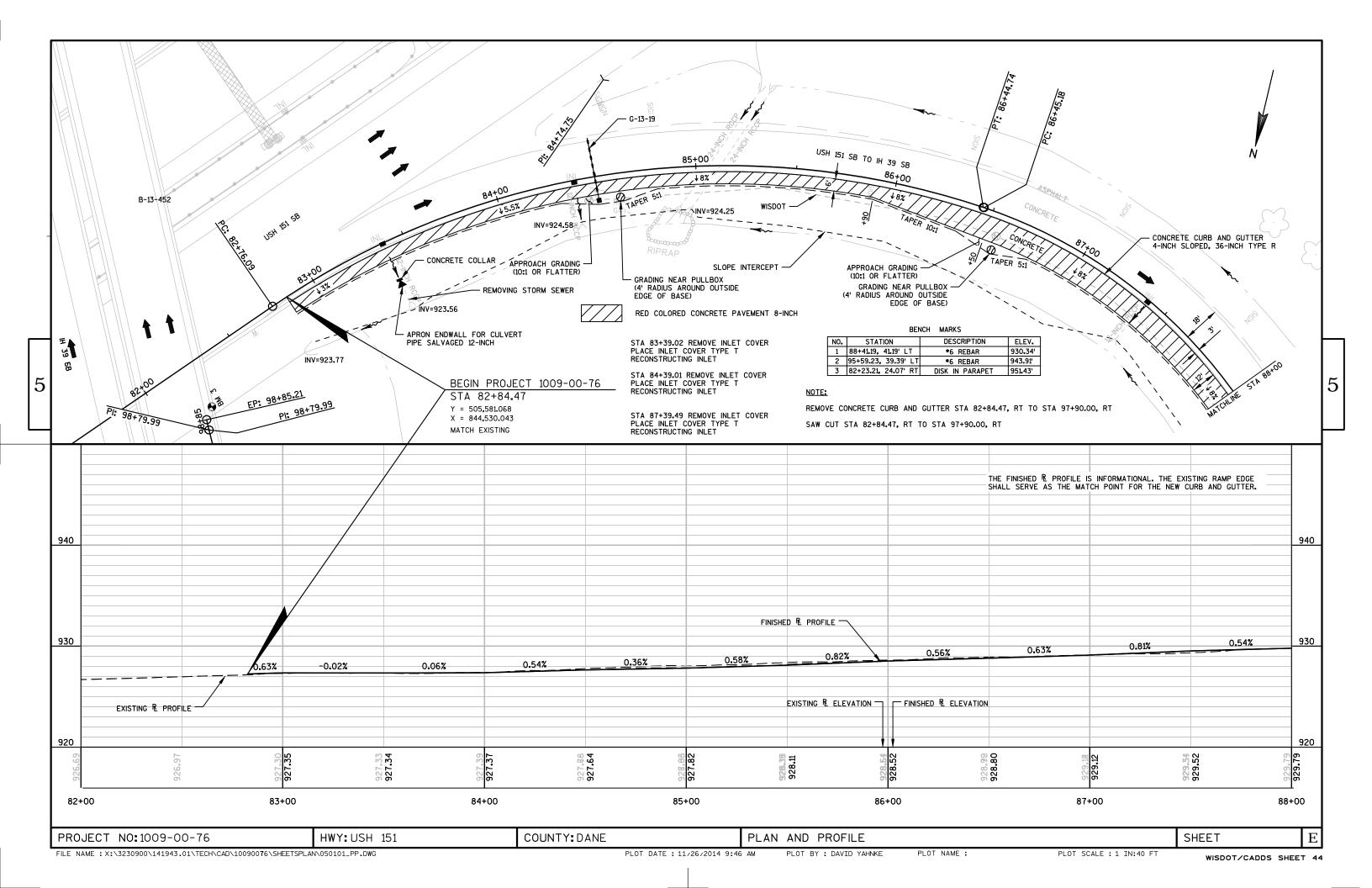
HWY: USH 151

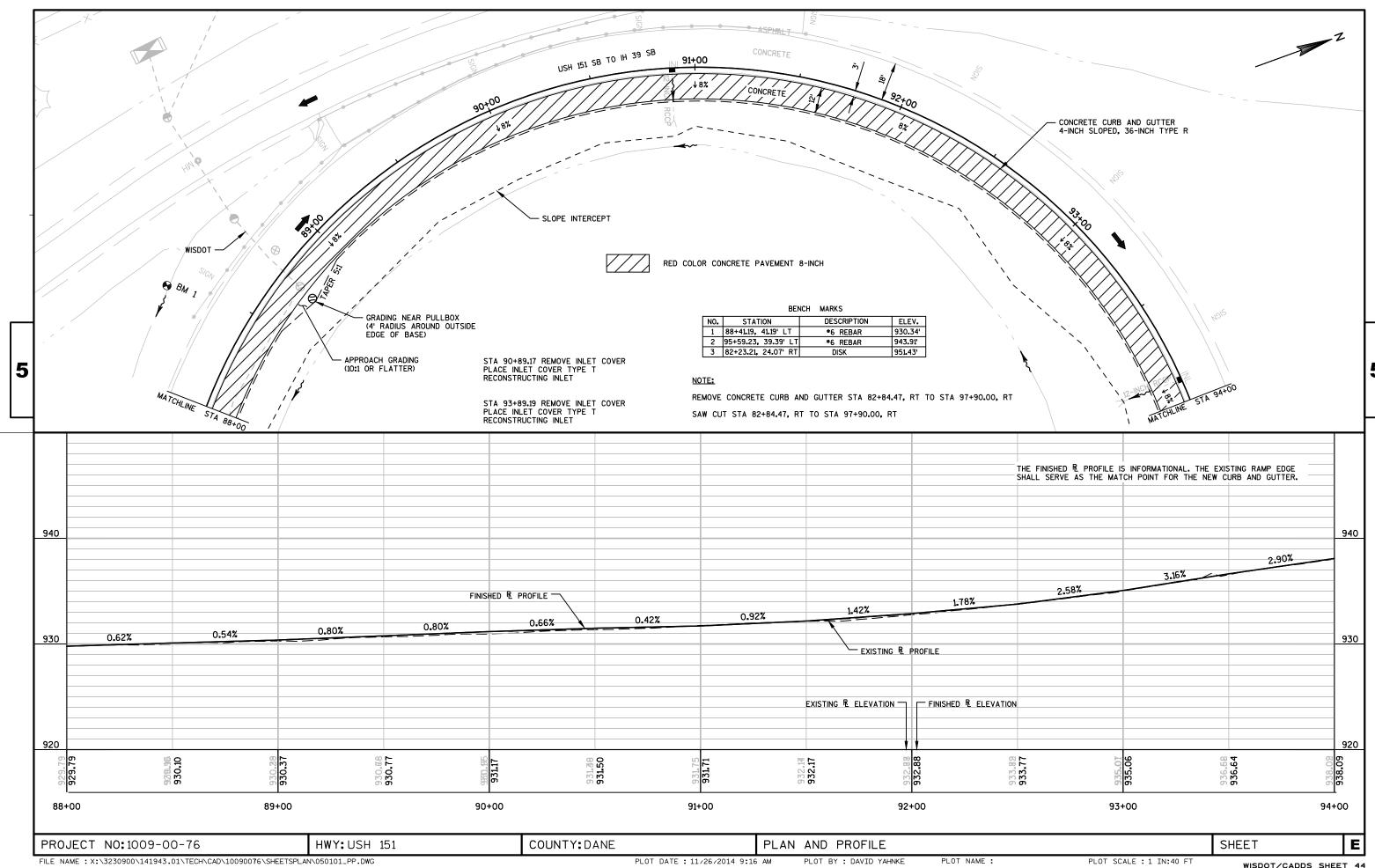
COUNTY: DANE

MISCELLANEOUS QUANTITIES

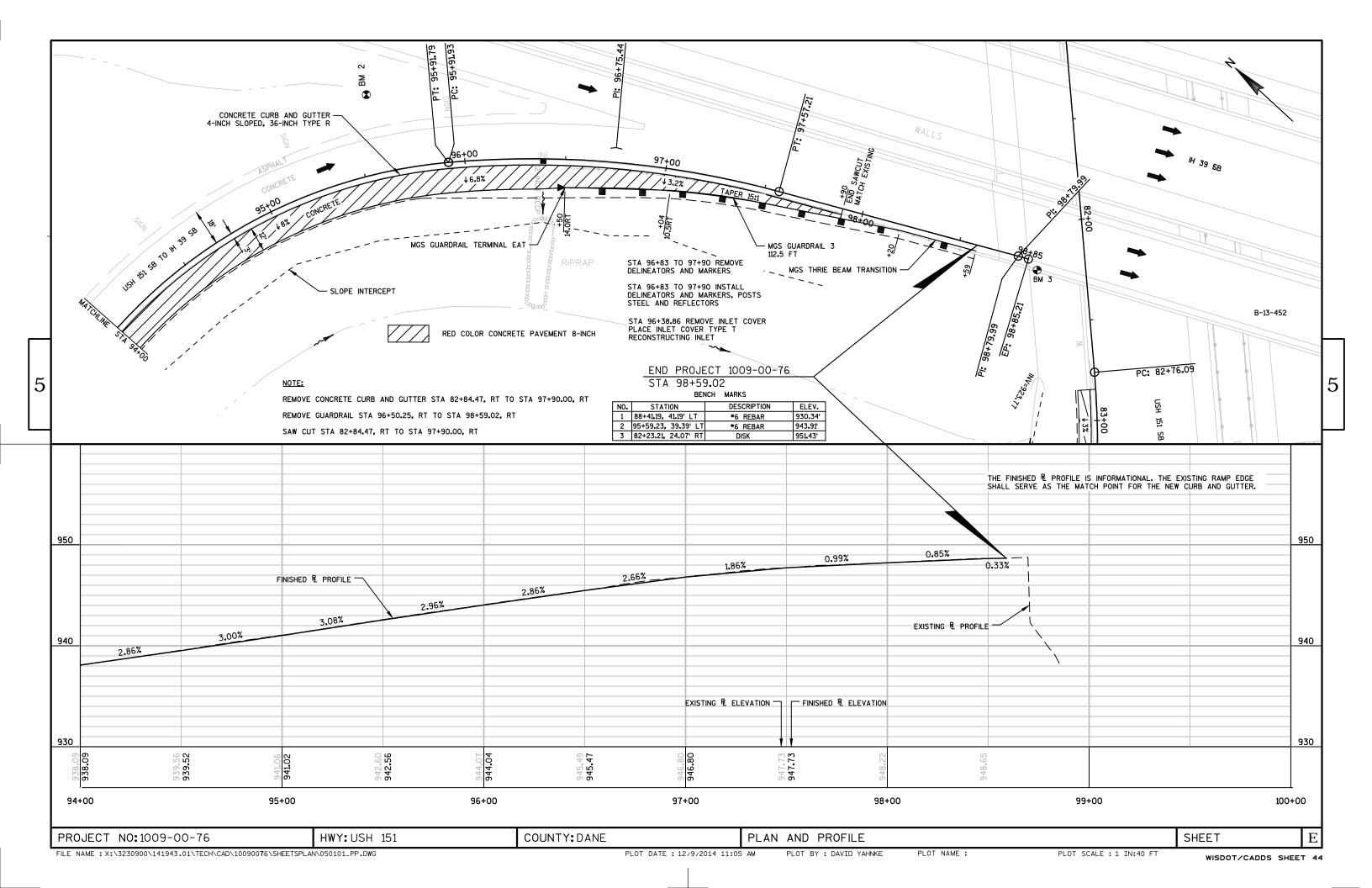
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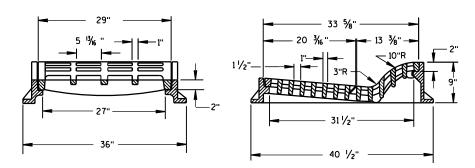
WISDOT/CADDS SHEET 44



Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13C01-17	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
14B24-08A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-08C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MI DWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15A06-02	DELINEATOR LAYOUT
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D14-02	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D35-01A	RAMP GATE HARD WIRED
15D35-01B 15D35-01C	RAMP GATE HARD WIRED RAMP GATE HARD WIRED
15D35-01D	RAMP GATE HARD WIRED
13033-010	NAME DATE HAND WIKED

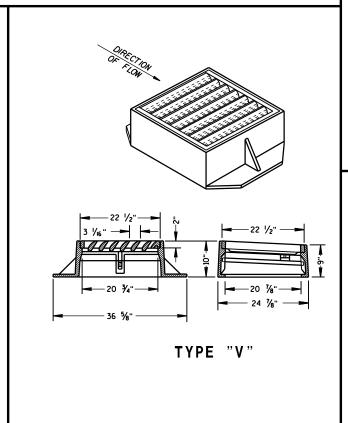
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TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

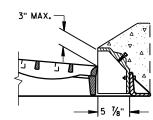
25 ½" 23 ½" 23 ½" 23 ½" 23 ½" 23 ½" 23 ½" 23 ½" 23 ½" 25 ½" 23 ½" 25 ½" 25 ½" 26 ½" 27 ½" 28 ½" 28 ½" 29 ½" 20 ½"



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

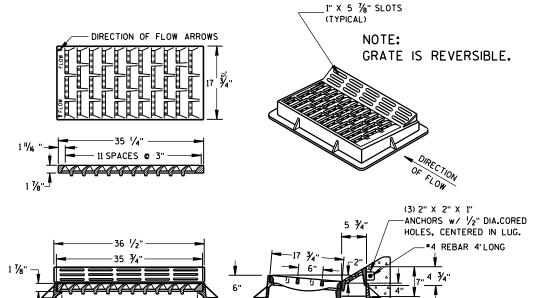
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

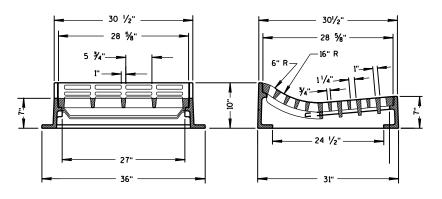
NOIE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE



TYPE "HM"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.



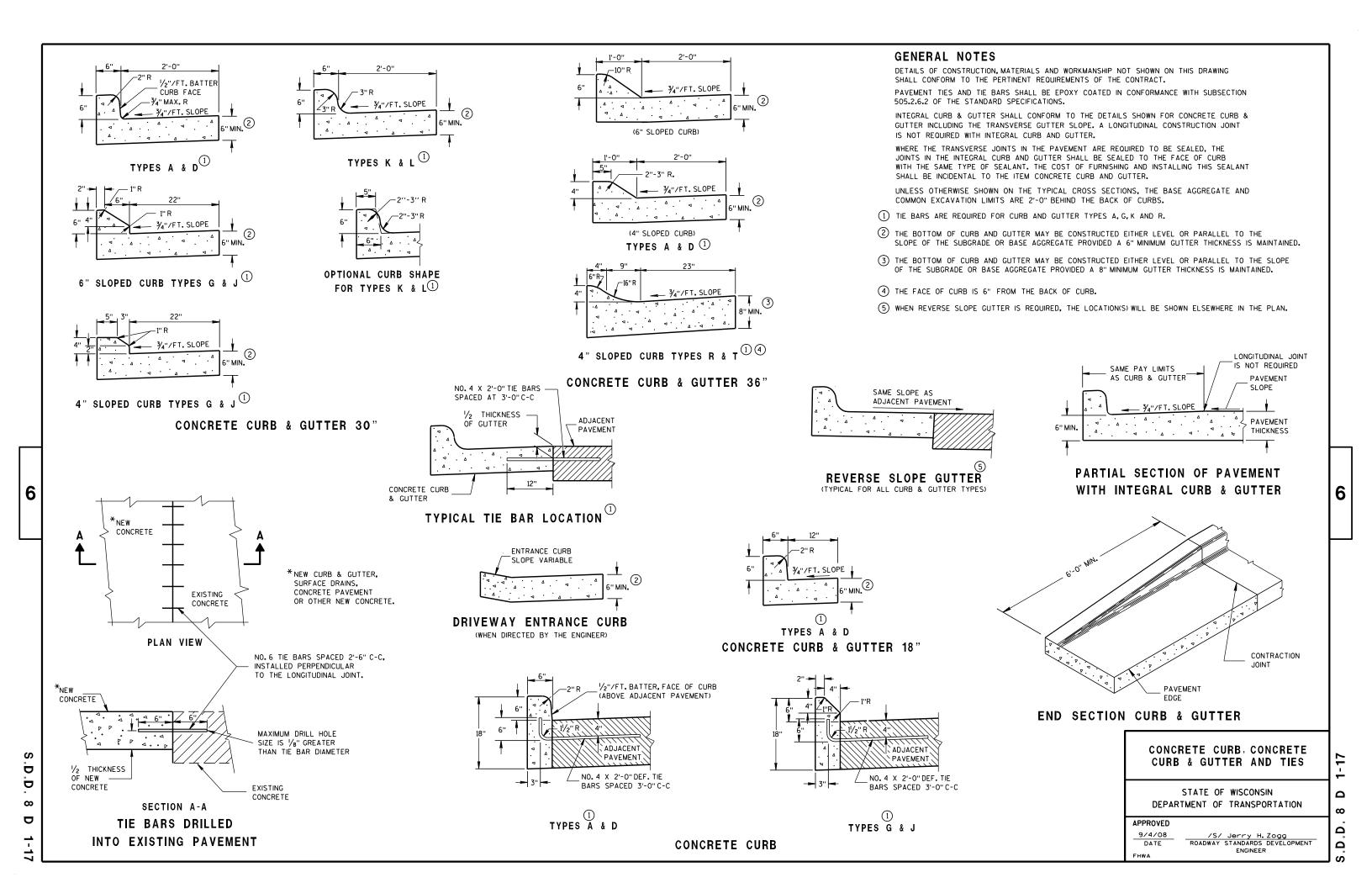
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

II/27/2013
DATE / /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

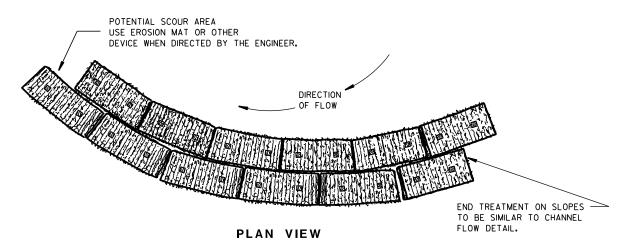
A 5-19

D.D. 8

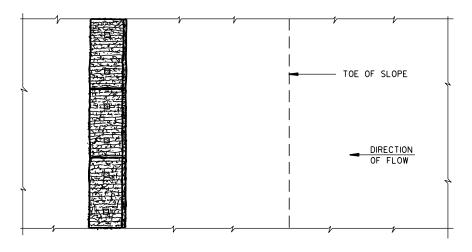


DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

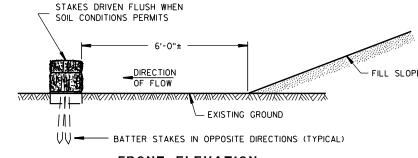
TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.



WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF **EROSION BALES / TEMPORARY** DITCH CHECKS

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 /S/ Beth Connestro
CHIEF ROADWAY DEVELOPMENT ENGINEER

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TYPICAL APPLICATION OF SILT FENCE

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PLAN VIEW SILT FENCE AT MEDIAN SURFACE DRAINS



GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- 2 FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- 3 WOOD POSTS SHALL BE A MINIMUM SIZE OF 11/8" X 11/8" OF OAK OR HICKORY.
- 4) SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- (5) CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)



SILT FENCE

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INLET PROTECTION, TYPE A

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 1) FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- (2) FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- (3) FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE, THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION TYPE A, B, C, AND D

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

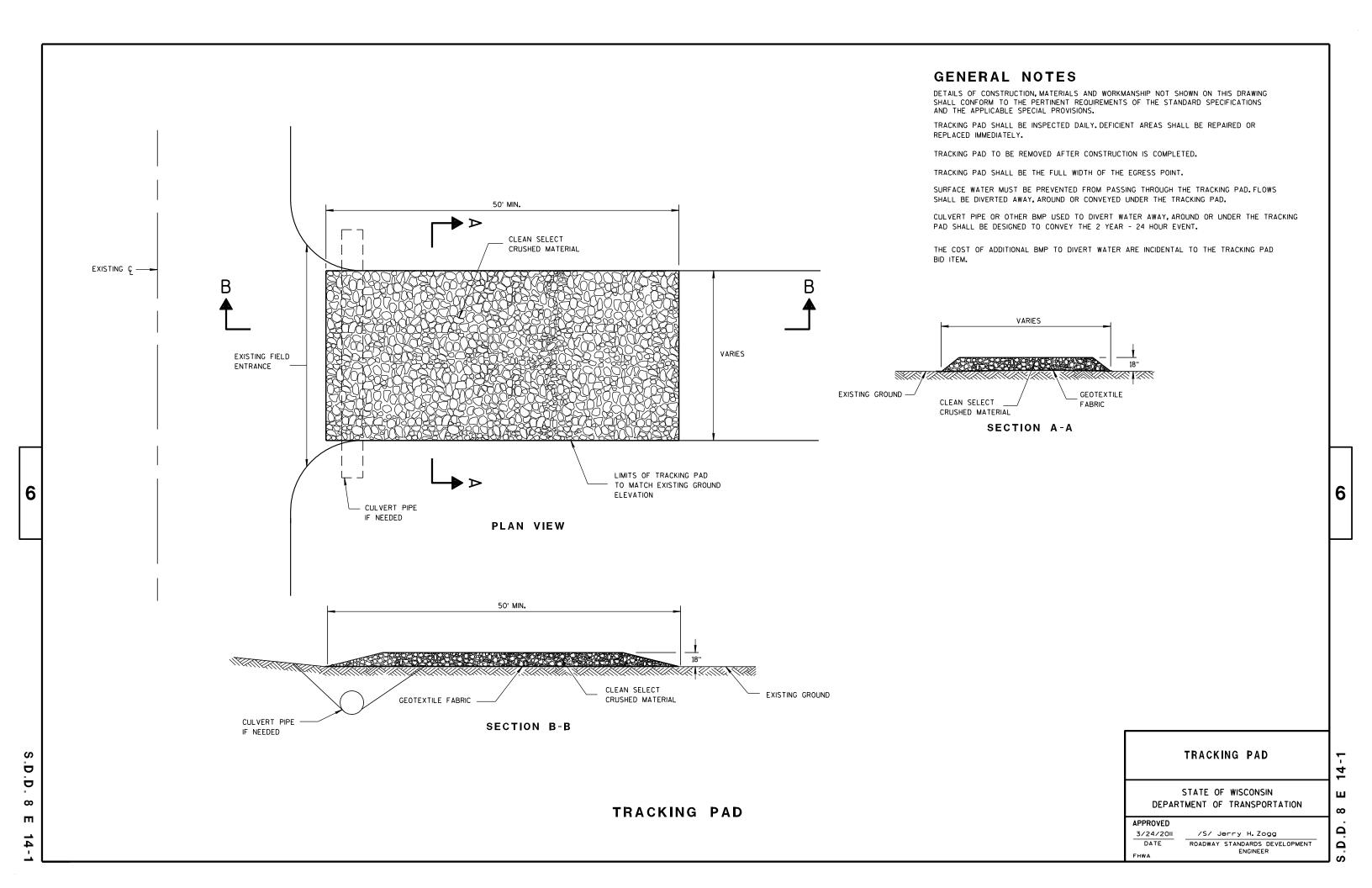
10/16/02

/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER 6

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			ı	METAL	APR	ON EN	NDWAL	.LS			
PIPE	PIPE MIN. THICK.				APPROX.						
DIA.	(Inches)		A	В	Н	L	Lį	L2	W	SLOPE	BODY
(IN.)	STEEL	ALUM.	(±]")	(MAX.)	(±]")	(±1½")	①	0	(±2")		
12	.064	.060	6	6	6	21	12	171/2	24	21/2+o 1	1Pc.
15	.064	.060	7	8	6	26	14	213/4	30	2½+o 1	1Pc.
18	.064	.060	8	10	6	31	15	28 ¹ / ₄	36	2½+o 1	1Pc.
21	.064	.060	9	12	6	36	18	29%	42	21/2+o 1	1Pc.
24	.064	. 075	10	13	6	41	18	371/4	48	$2\frac{1}{2}$ to 1	1Pc.
30	.079	. 075	12	16	8	51	18	521/4	60	$2\frac{1}{2}$ to 1	1Pc.
36	.079	. 105	14	19	9	60	24	59¾	72	$2\frac{1}{2}$ to 1	2 Pc.
42	.109	. 105	16	22	11	69	24	75 1/8	84	$2\frac{1}{2}$ to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 ¹ / ₄ +o 1	3 Pc.
54	.109	. 105	18	30	12	84	30	851/2	102	21/4+0 1	3 Pc.
60	.109×	.105×	18	33	12	87	_	_	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	_	_	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	_	_	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	_	_	132	11/2+0 1	3 Pc.
84	.109×		18	45	12	87	_	_	138	1/2+0 1	3 Pc.
90	.109×	.105×	18	37	12	87	_	_	144	11/2+0 1	3 Pc.
96	.109×	.105×	18	35	12	87	_		150	11/2+0 1	3 Pc.

* EXCEPT CENTER PANEL

SEE GENERAL NOTES

PLAN VIEW

END VIEW

SIDE ELEVATION

METAL ENDWALLS

SHOULDER

SLOPE

	REINFORCED CONCRETE APRON ENDWALLS									
PIPE		APPROX.								
DIA.	Т	A	В	C D		E	G	SLOPE		
12	2	4	24	48 1/8	721/8	24	2	3 to 1		
15	21/4	6	27	46	73	30	21/4	3 to 1		
18	21/2	9	27	46	73	36	21/2	3 to 1		
21	23/4	9	36	371/2	731/2	42	23/4	3 to 1		
24	3	91/2	431/2	30	731/2	48	3	3 to 1		
27	31/4	101/2	$49^{1}/_{2}$	24	731/2	54	31/4	3 to 1		
30	$3\frac{1}{2}$	12	54	193⁄4	731/2	60	31/2	3 to 1		
36	4	15	63	34¾	97¾	72	4	3 to 1		
42	$4\frac{1}{2}$	21	63	35	98	78	41/2	3 to 1		
48	5	24	72	26	98	84	5	3 to 1		
54	51/2		65	* ** 33 ¹ / ₄ -35	* 98 ¹ / ₄ - 100	90	51/2	2% to 1		
60	6	* ** 30-35	60	39	99	96	5	2 to 1		
66	61/2		* ** 72-78	* * * 21-27	99	102	51/2	2 to 1		
72	7	* ** 24-36	78	21	99	108	6	2 to 1		
78	71/2	* ** 24-36	78	21	99	114	61/2	2 to 1		
84	8	36	901/2	21	1111/2	120	61/2	11/2+0 1		
90	81/2	41	871/2	24	1111/2	132	61/2	11/2+0 1		

*MINIMUM

PLAN

END VIEW

END SECTION

GROOVED END ON OUTLET END SECTION TONGUE END ON INLET END SECTION

BAR OR STEEL FABRIC

REINFORCEMENT

LONGITUDINAL SECTION

CONCRETE ENDWALLS

OPTIONAL

1 1/2" R

CULVERT

MEASURED LENGTH

OF CULVERT (TO-

NEAREST FOOT)

DESIGN

REINFORCED

SECTION A-A)

END CORNER PLATES MAY

BE FASTENED TO APRON

THE SURFACES TIGHTLY

TOGETHER

PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD

TOE PLATE (SAME THICKNESS

AND METAL AS APRON) SHALL

BE FURNISHED WHEN CALLED

FOR ON THE PLANS

FDGE (SFE

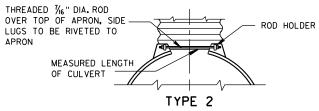
END SECTION CONNECTOR STRAP LUG

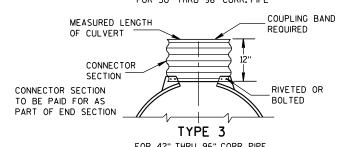
1" WIDE, 12 GA. (0.109"

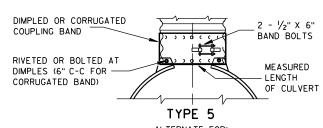
THICK) GALVANIZED STRAP

WITH STANDARD 6" X 1/2" BAND BOLT AND NUT

TYPE 1 FOR 12" THRU 24" CORR. PIPE





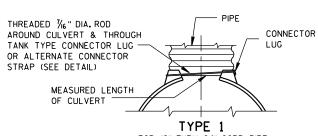


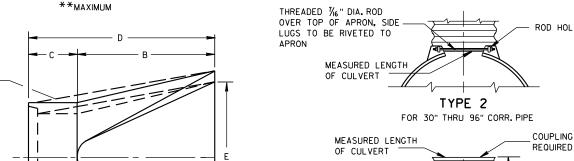
ALTERNATE FOR: ALL SIZES CORRUGATED CIRCULAR PIPE

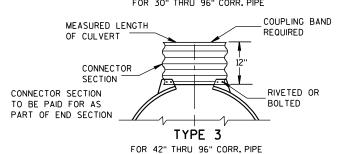
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

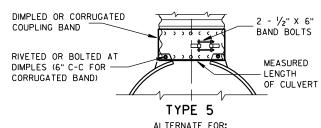
CONNECTION DETAILS 1, 2 OR 5.

ALTERNATE FOR TYPE 1 CONNECTION







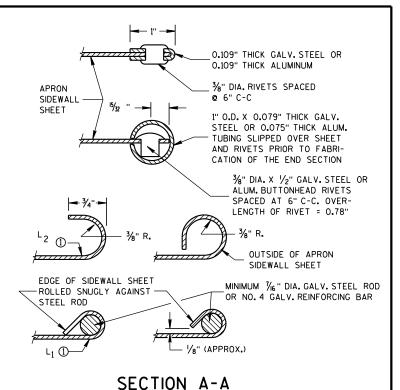


FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5

FOR HELICALLY CORRUGATED PIPE USE ENDWALL

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA, GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES. THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

(1) FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

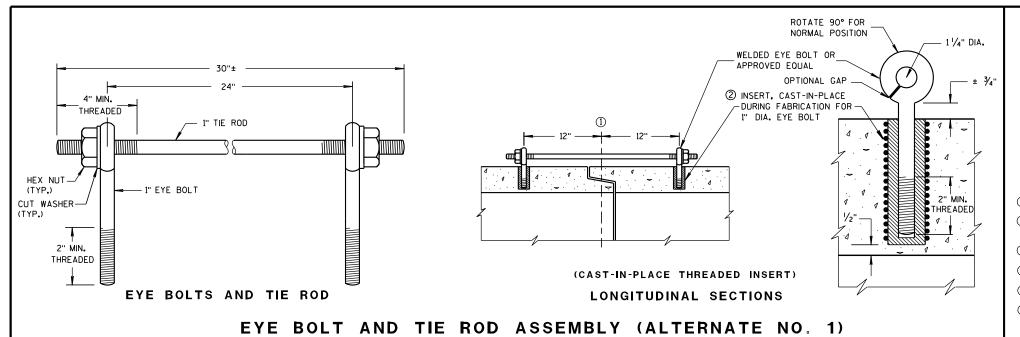
11/30/94 /S/ Rory L. Rhinesmith CHIEF ROADWAY DEVELOPMENT ENGINEER

END CORNER

1/16" DIA. HOLES FOR

BOLTS OR RIVETS -

12" C-C MAX. SPACING



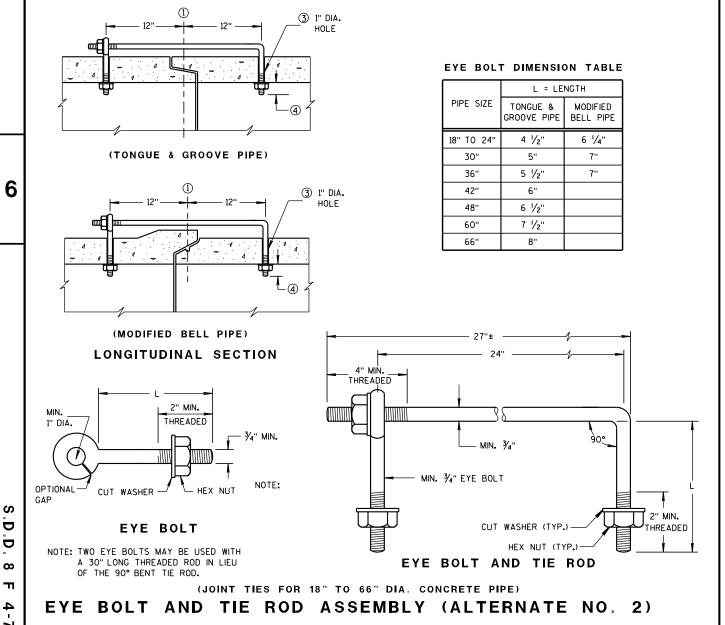
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES, ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

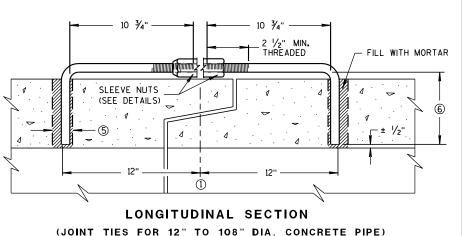
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- (1) & OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE
- ${\mathfrak S}$ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ${\mathfrak L}$ OF TONGUE AND GROOVE.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- (5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN $rac{1}{2}$ INCH OF THE INNER SURFACE OF THE PIPE.

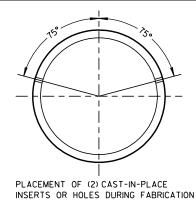


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ADJUSTABLE TIE ROD TABLE 5/8 5 12-60 3/4 5 1/2 3/4 90-108 DIMENSIONS SHOWN ARE IN INCHES **TAPERED** PLAIN RIGHT AND LEFT THREADS **SLEEVE NUTS** 2 1/2" MIN. THREADED

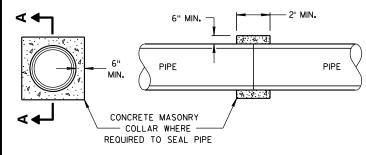


ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

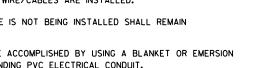
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6/5/2012 /S/ Jerry H. Zogg DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

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DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REIN-STALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE. ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

BOTTOM OF ¼" HOLE PVC CONDUIT-CONDUIT TRENCH BOTTOM OF METALLIC CONDUIT-FOR DRAINAGE CONDUIT TRENCH 1" DIA. X 6" NIPPLE NO. 2 COARSE NO. 2 COARSE AGGREGATE FILL AGGREGATE FILL I'-0" DIA. OR SQUARE → —1'-0" DIA. OR SQUARE —>

NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS

CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT DRAIN SUMP FOR PVC CONDUIT

NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS

CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

ARROW MARK INSCRIBED IN PAVEMENT SURFACE OVER € OF CONDUIT (BOTH ENDS) — 2'-0"*—* — 2'-0" NORMAL PAVEMENT EDGE OF PAVEMENT THICKNESS PAVEMENT OR BACK OF CURB BASE COURSE BACKFILL SLOPE 1/8"/FT. EITHER DIRECTION *DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES CONDUIT, PITCH TO DRAIN WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT UNDER PAVED HIGHWAYS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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APPROVED Sept. 2014 /S/ Ahmet Demirbilek DATE STATE ELECTRICAL ENGINEER FHWA

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ARROW MARK SHALL BE INSCRIBED IN PAVEMENT SURFACE 1/4" TO 3/8"

DEEP AT EACH LOCATION WHERE CONDUITS ARE PLACED UNDER

PLAN VIEW

ARROW MARK

CONDUIT

THE PAVEMENT

EDGE OF

PAVEMENT OR BACK

OF CURB

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	Α	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	В	24	30	36	24	30	36	36	42	48
WALL THICKNESS	С	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	Ε	14 1/2	14 1/2	14 1/2	20 ½	20 ½	20 ½	26 ½	26 ½	26 ½
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 ½	14 1/2	20 ½	20 ½	20 ½
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 ½	23 ½	23 ½
	WEIGHT IN POUNDS *									
FRAME AND COVER	FRAME AND COVER		60	60	110	110	110	155	155	155

- * THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.
- NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

6" MAX. **EXTENSION** TOP OF ORIGINAL CORRUGATED PIPE (3) BOLTS, NUTS & LOCKWASHERS REQUIRED

ELECTRIC

FINAL GRADE

ALL METALLIC CONDUIT

AND THREADED

CUT OPENINGS

THE FIELD

2" PVC PIPE CAP ON BOTH ENDS

WITH 7, 8 1/4" HOLES DRILLED

IN EACH END.

PULL BOX

AS REQUIRED IN

ENDS SHALL BE REAMED

ALL CONDUIT PITCHED

4 TO 8 BRICKS

EQUALLY SPACED

TO DRAIN TO PULL BOXES

2" DRAIN DUCT TO

DITCH OR SEWER

WHEN SPECIFIED

CORRUGATED PIPE EXTENDER

HEAVY DUTY FRAME -

6" MIN.

(TYP.)

AND COVER

WHEN A PULL BOX IS INSTALLED IN CRUSHED

AGGREGATE SHOULDERS, PLACE IT 2-3

2-3 INCHES OF CRUSHED AGGREGATE

NO. 2 COARSE

(SEE SECTION 501

OF THE STANDARD

WIRE AND/OR CABLE.

INSTALL END BELLS (U.L. LISTED FOR

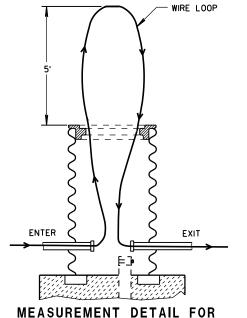
CONDUIT BEFORE INSTALLATION OF

ELECTRICAL USE) ON ALL NONMETALLIC

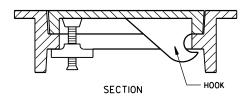
SPECIFICATIONS)

AGGREGATE

INCHES BELOW GRADE AND COVER IT WITH

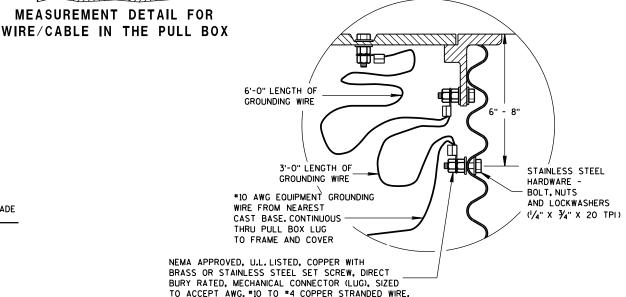


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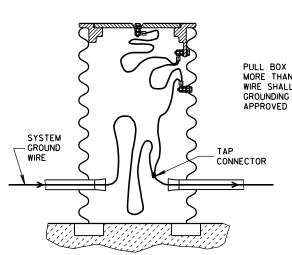


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

PULL BOX

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014 /S/ Ahmet Demirbilek DATE STATE ELECTRICAL ENGINEER FHWA

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED. SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

TRAFFIC LOADS.

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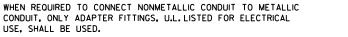
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IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL. THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE.
BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1FOOT OR LESS. A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL

BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE

(GROUND ROD) FOR TYPE 1. TYPE 2. TYPE 5. AND TYPE 6 BASES.

GENERAL NOTES (CONTINUED)

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE

OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A LINCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD, ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED. THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

- 1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.
- (2) (4) 1" DIA. X 3'-6" ANCHOR RODS.
- (3) (4) 1" DIA. X 5'-0" ANCHOR RODS.
- (4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
- (5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
- (6) (4) 1" DIA. X 3'-6" ANCHOR RODS.
- (7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.
- (8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

FORMING DETAIL

1'-8"

a)

- FORM

FORMING SHALL BE

CONCRETE HAS SET

REMOVED AFTER

FORM DEPTH SHALL BE

GRADE ON THE LOWER

SIDE OF BASE

4" MAX.

CONDUIT WITHIN

6" DIA.

ANCHOR RODS SHALL BE

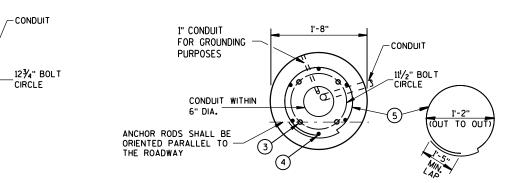
ORIENTED PARALLEL TO

1" CHAMFER ALL AROUND

FORM ALL EXPOSED

CONCRETE, PROVIDE

NO MORE THAN 6" BELOW



QUANTITY

REQUIREMENTS

ARDS OF CONCRETE

APPROX. CUBIC

LBS. OF HOOP

LBS. OF VERTICAL

BAR STEEL

BAR STEEL

CONCRETE BASE TYPE

0.57

23

60

0.40

NONE

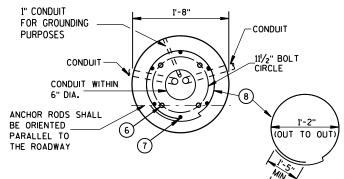
NONE

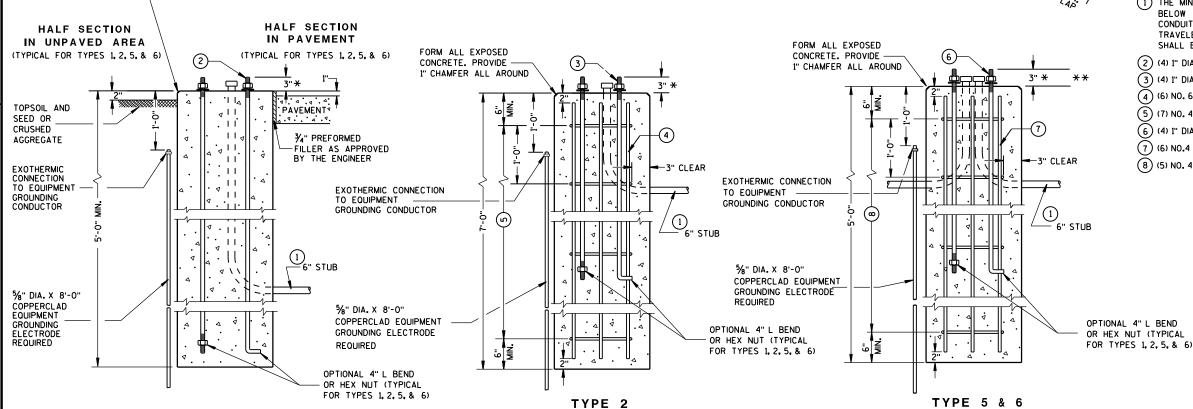
5 & 6

0.40

16

18





CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 31/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 41/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

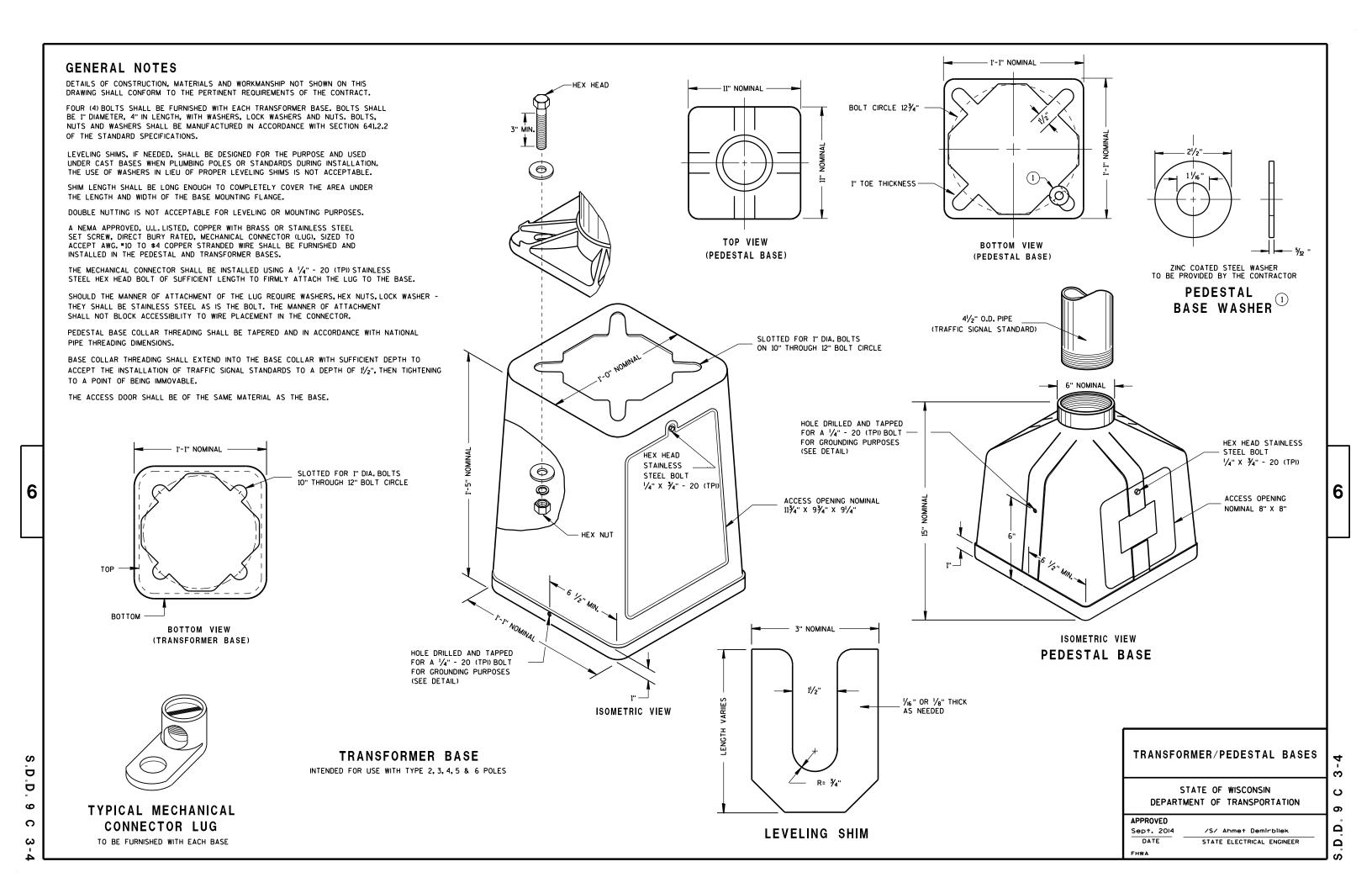
APPROVED Sept. 2014 /S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER

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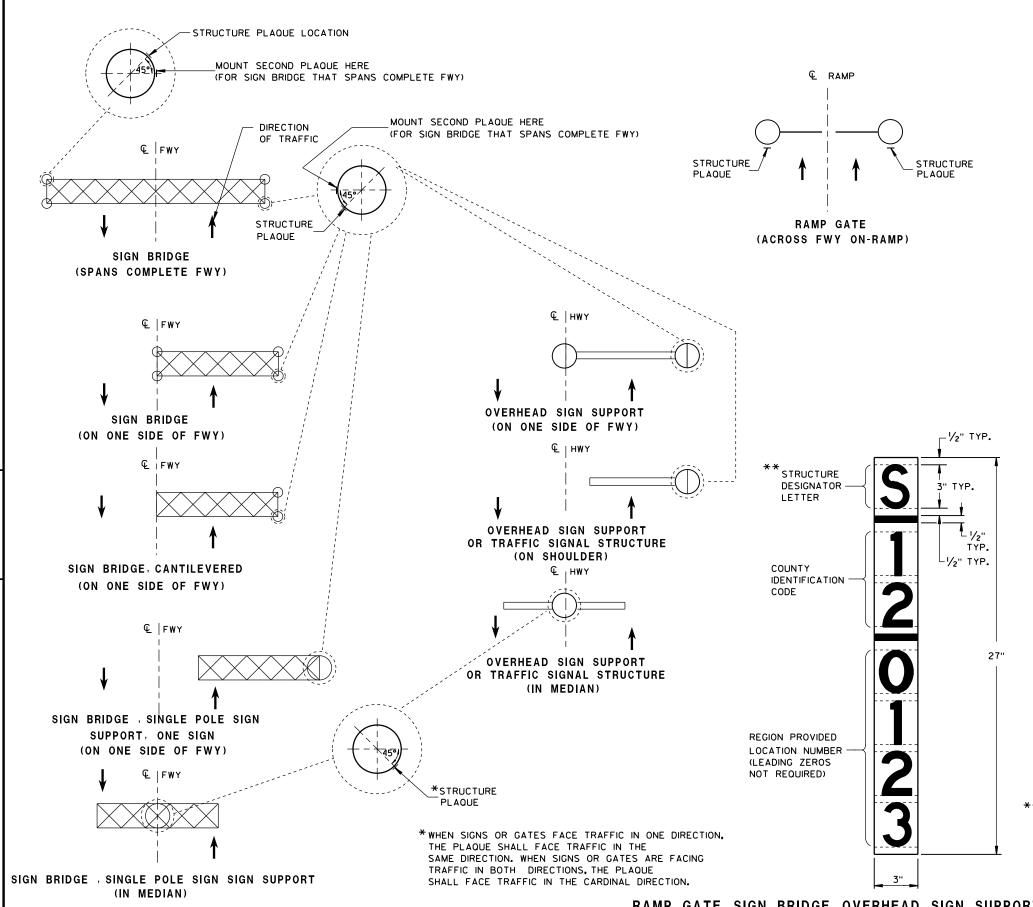
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LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD

SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

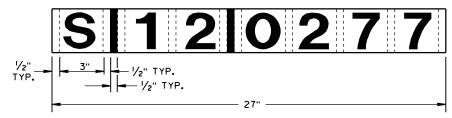
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

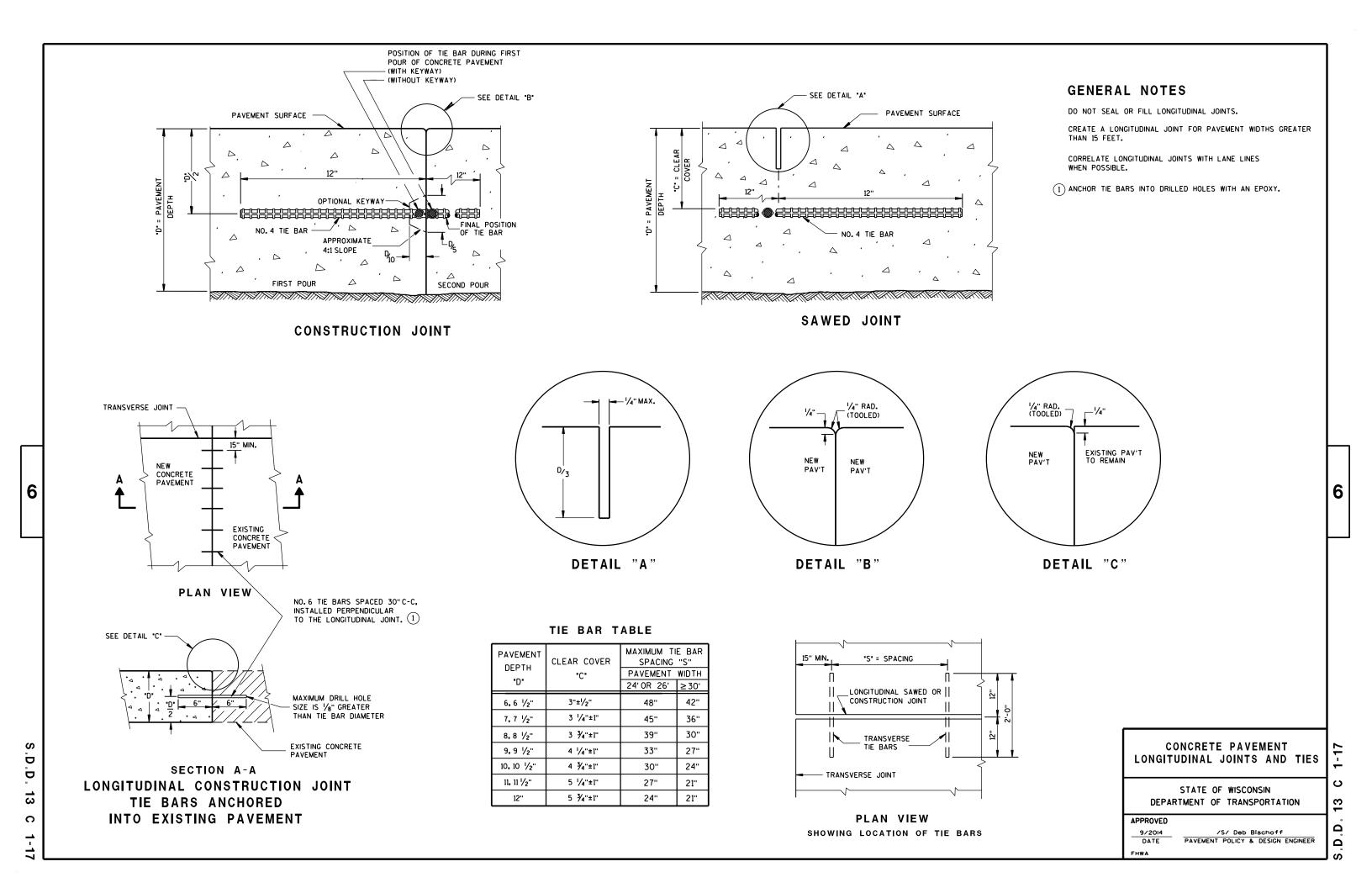
STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

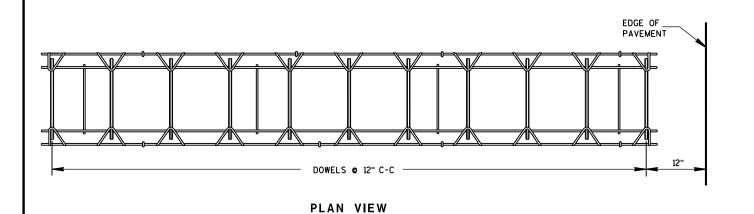
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

DATE STATE TRAFFIC ENGINEER OF DESIGN

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED





PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING		
5 1/2", 6",6 1/2"	NONE	12'		
7",7 1/2"	1"	14'		
8"•8 1/2"	1 1/4"	15'		
9",9 1/2"	1 1/4"	15'		
10" & ABOVE	1 1/2"	15'		

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

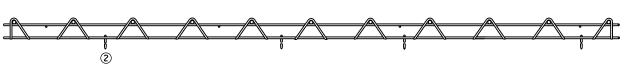
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE

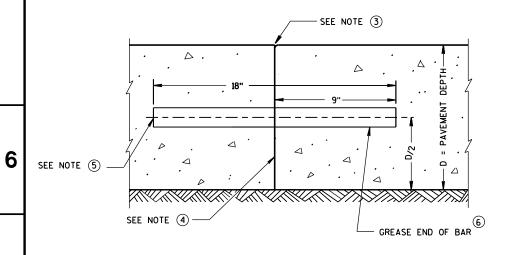
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

- (1) OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.
- 2) SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.
- (3) FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.
- 4 PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.
- 5 INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO DRILLED DOWEL BAR CONSTRUCTION JOINT DETAIL.
- 6 APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.
- (7) ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER. 9 INCHES IN LENGTH.



SIDE VIEW CONTRACTION JOINT DOWEL ASSEMBLY



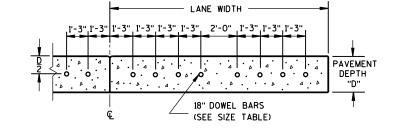
TRANSVERSE CONSTRUCTION JOINT

△ DOWEL BARS © 12" C-C 12" FROM PAVEMENT EDGE-

DOWELED CONTRACTION JOINT

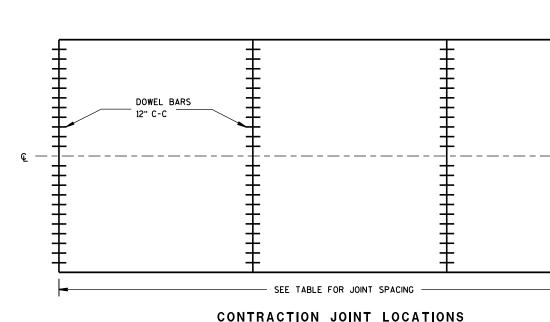
(SEE SIZE TABLE)

SEE JOINT DETAIL



(FOR 11' LANE WIDTH REDUCE CENTER SPACE TO 1'-O")

DRILLED DOWEL BAR CONSTRUCTION JOINT $^{\scriptsize \bigcirc}$



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

- ¼" MAX.

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APPROVED 5/3/2013

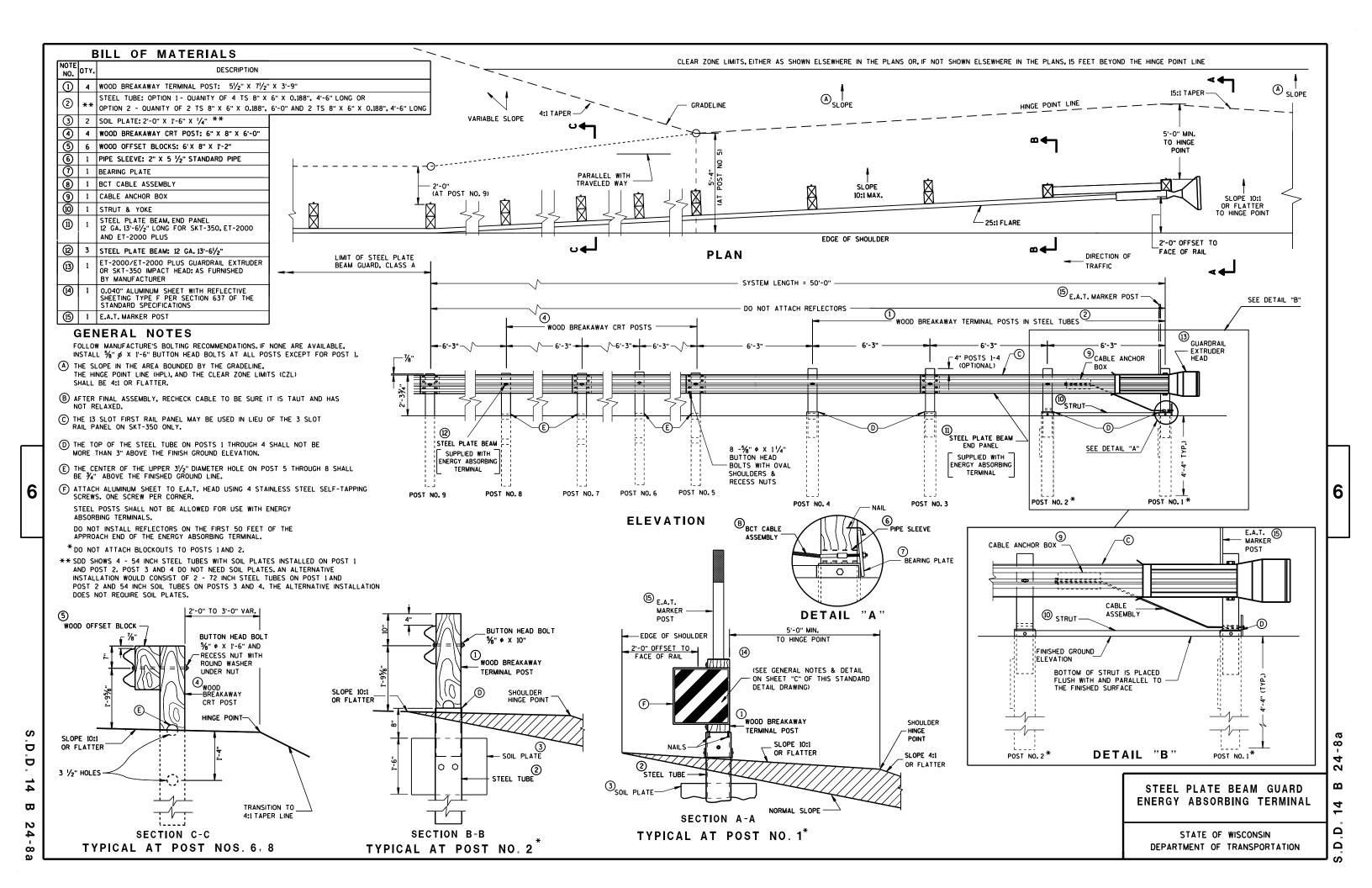
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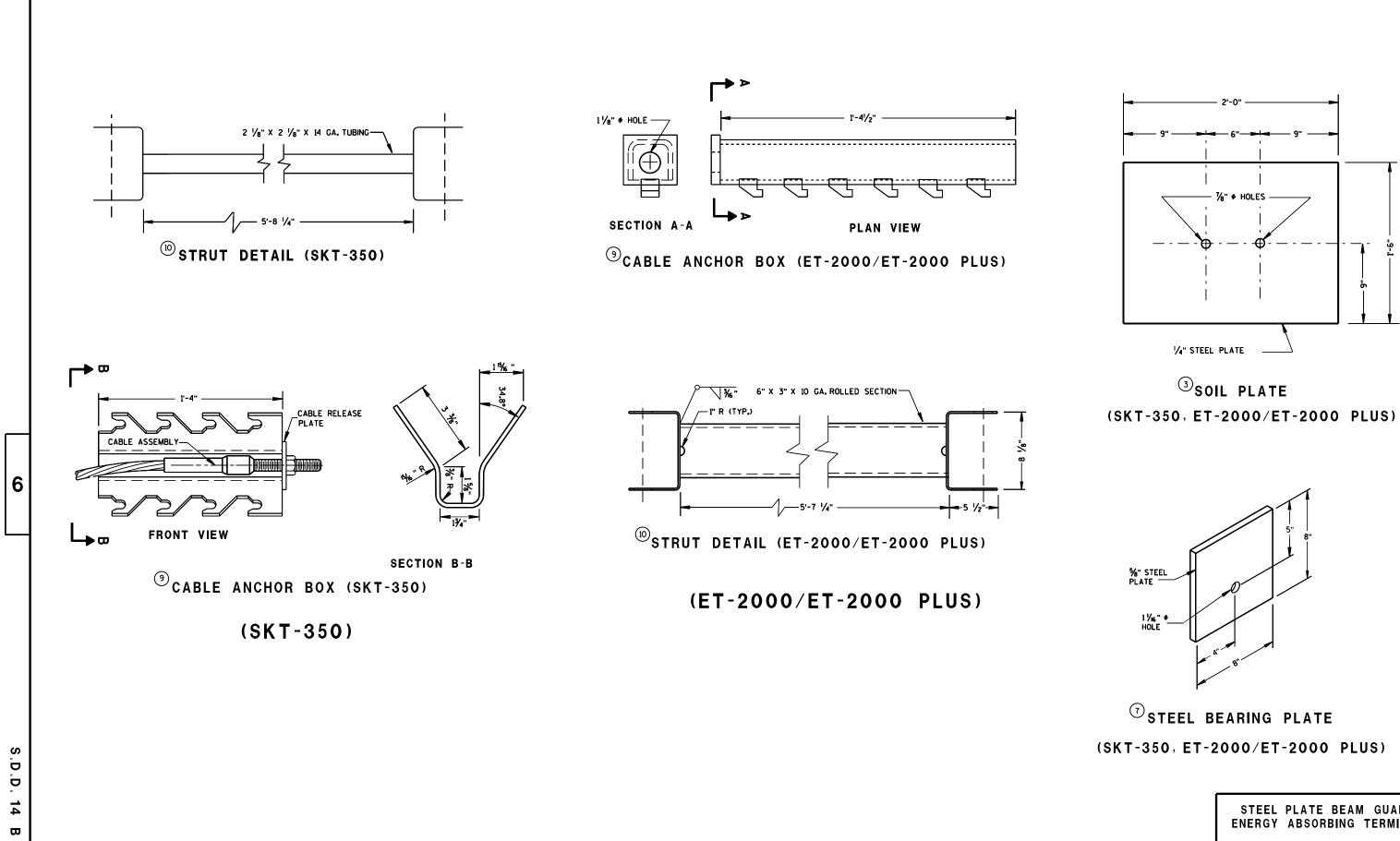
/S/ Deb Bischoff PAVEMENT POLICY & DESIGN ENGINEER

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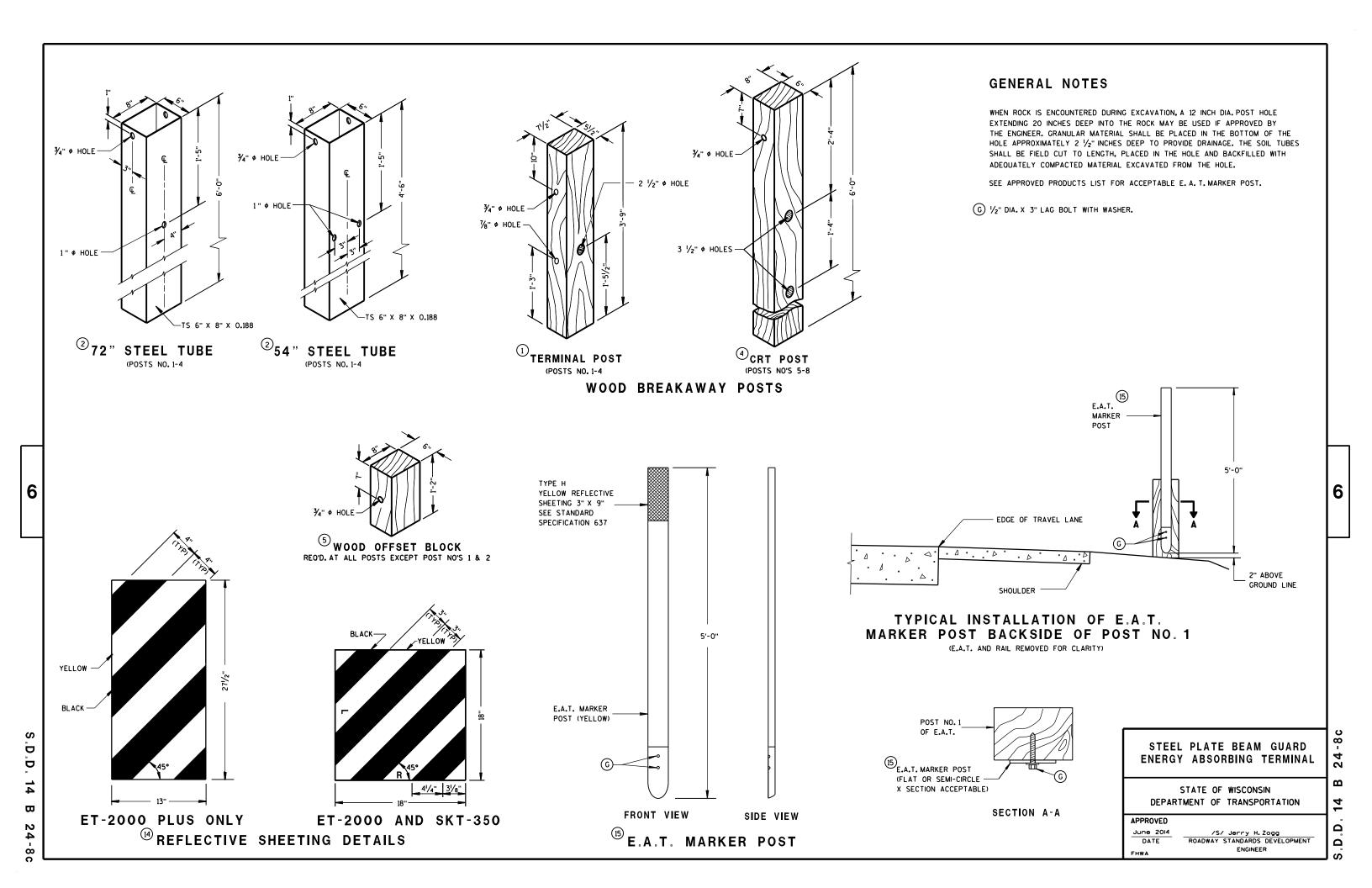




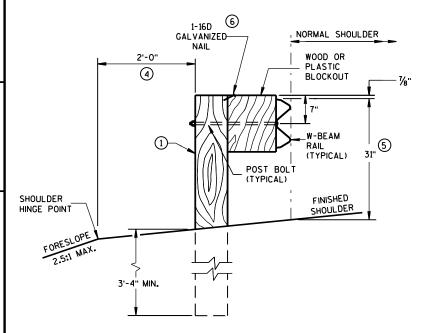
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STEEL PLATE BEAM GUARD **ENERGY ABSORBING TERMINAL**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION 14 أ يُ

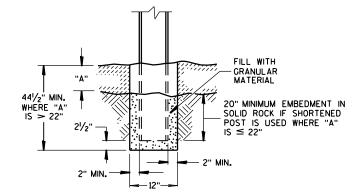


- (1) WOOD OR STEEL POSTS (W6X9 OR W6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- 2 USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- (3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 21/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- (4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- (5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 273/4" TO 32".
- (6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



END VIEW

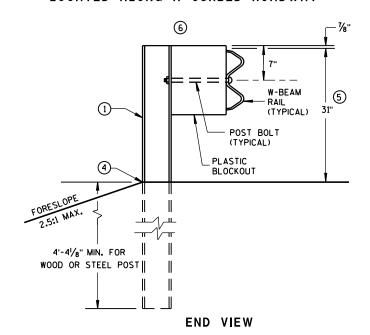
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



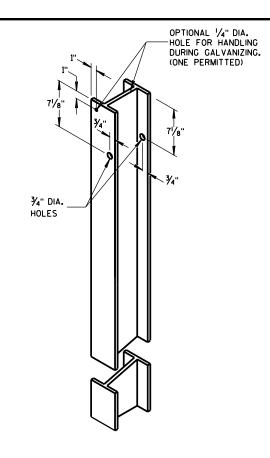
SETTING STEEL OR WOOD POST IN ROCK $^{\scriptsize{\textcircled{3}}}$



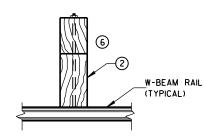
END VIEW
LOCATED ALONG A CURBED ROADWAY



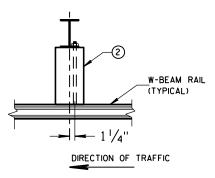
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



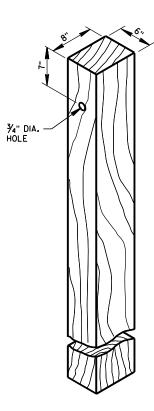
STEEL POST & HOLE PUNCHING DETAIL (w6X9)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



WOOD POST (6" X 8") NOMINAL $^{\scriptsize \textcircled{1}}$



WOOD OR PLASTIC BLOCKOUT

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

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DEPARTMENT OF TRANSPORTATION

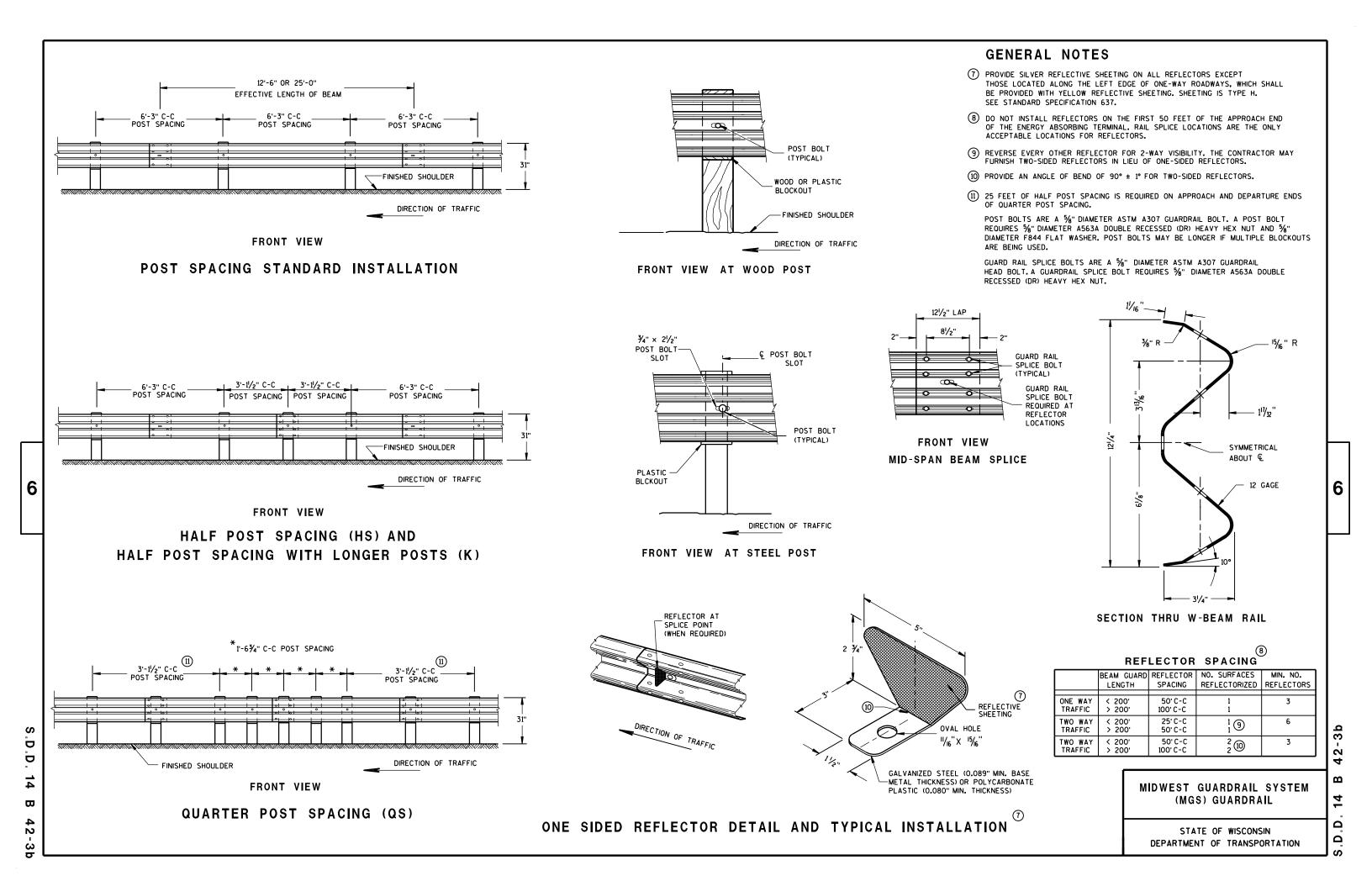
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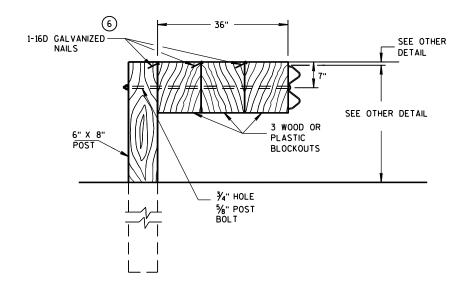
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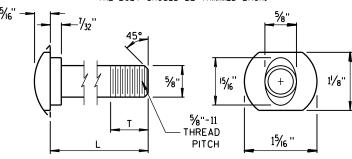


DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

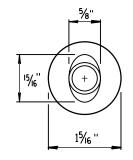
> DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{1}{16}$ ". 2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

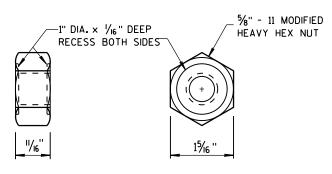


POST BOLT TABLE

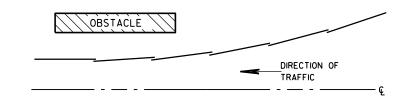
11/8"
437
13/4"
4"
41/16"
4"
41/16"
4"



ALTERNATE BOLT HEAD

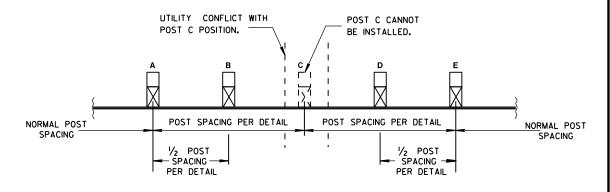


POST BOLT AND RECESS NUT



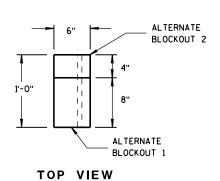
PLAN VIEW

BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION





SIDE VIEW

ALTERNATE WOOD **BLOCKOUT DETAIL**

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014 /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA

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S.D.D.

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SECTION A-A SECTION B-B

9 H

PLAN VIEW

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
1	WOOD BREAKAWAY POST
2	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1AND 2
3	WOOD CRT
4	WOOD BLOCKOUT
(5)	PIPE SLEEVE
6	BEARING PLATE
7	BCT CABLE ASSEMBLY
8	ANCHOR CABLE BOX
9	GROUND STRUT
10	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL.MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
12	END SECTION EAT
(3)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



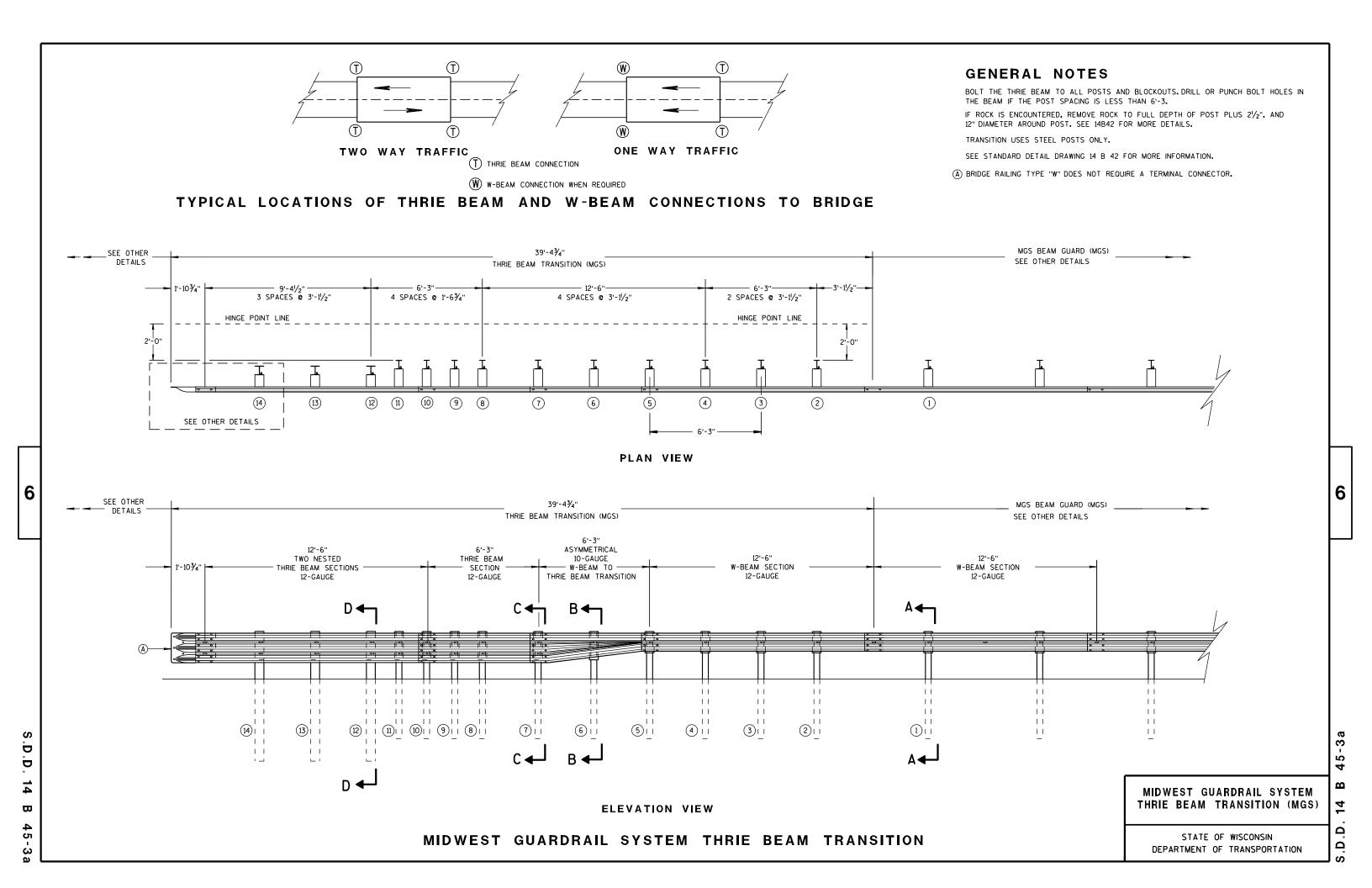
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

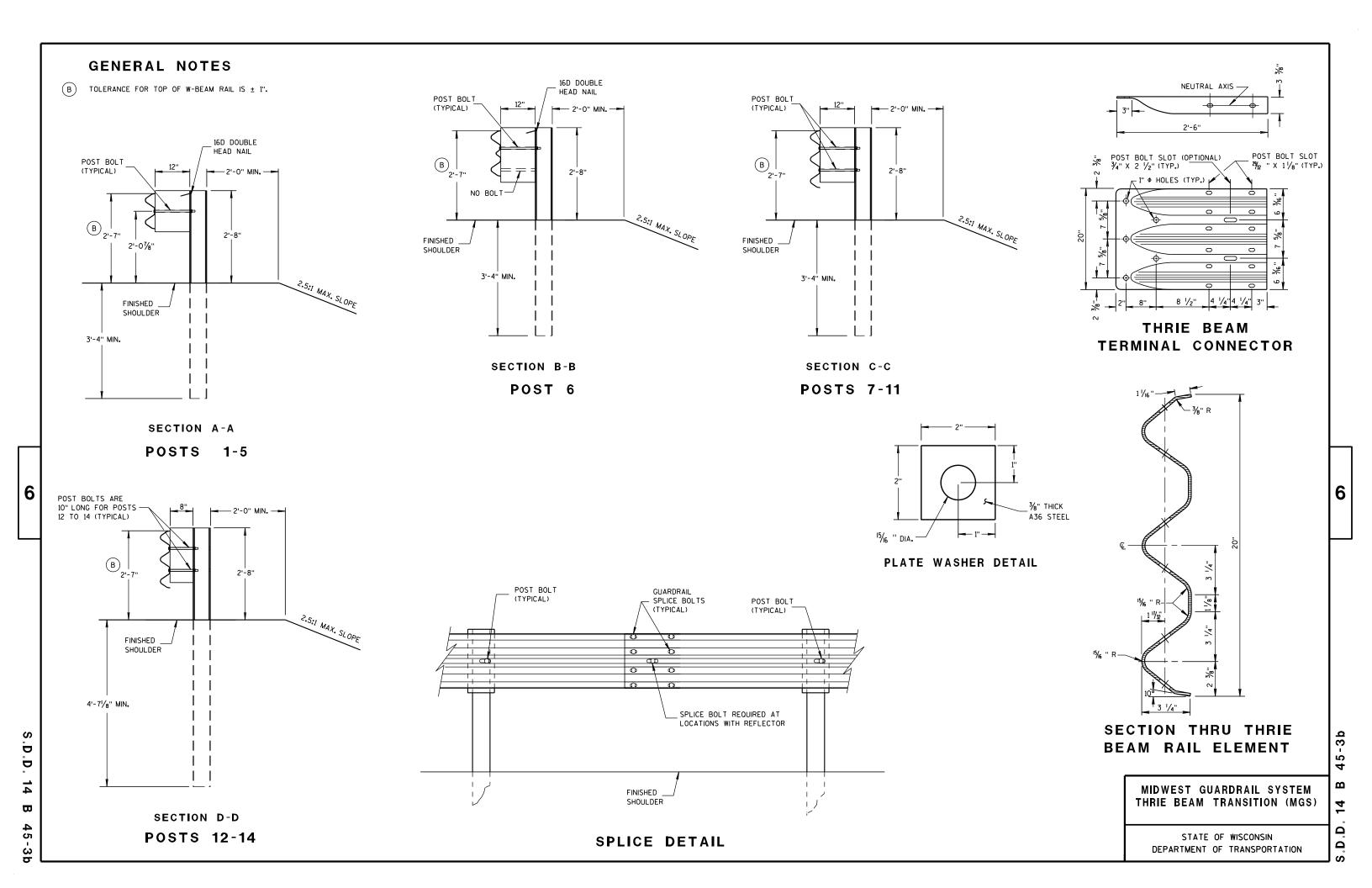
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

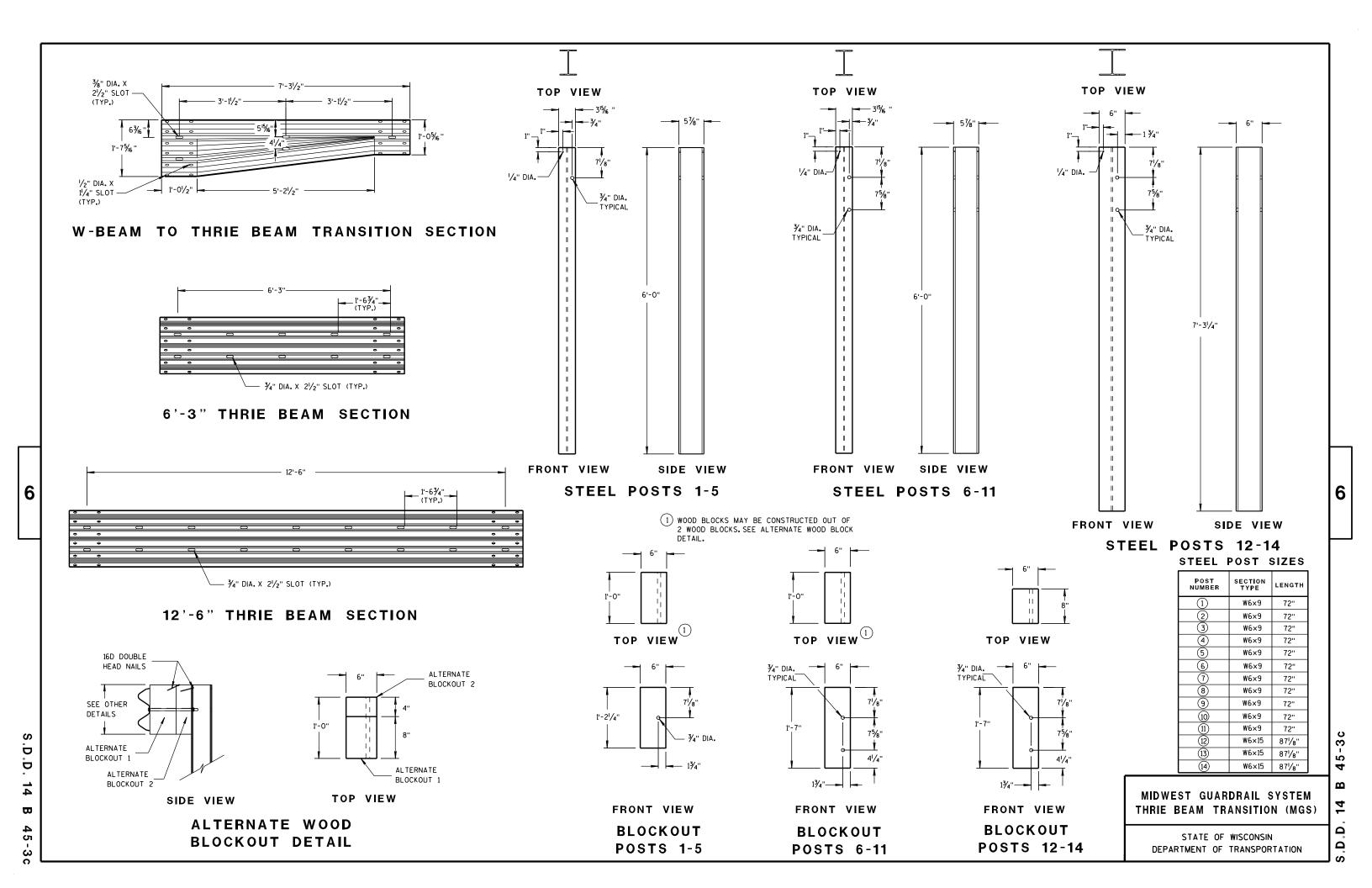
44-2b

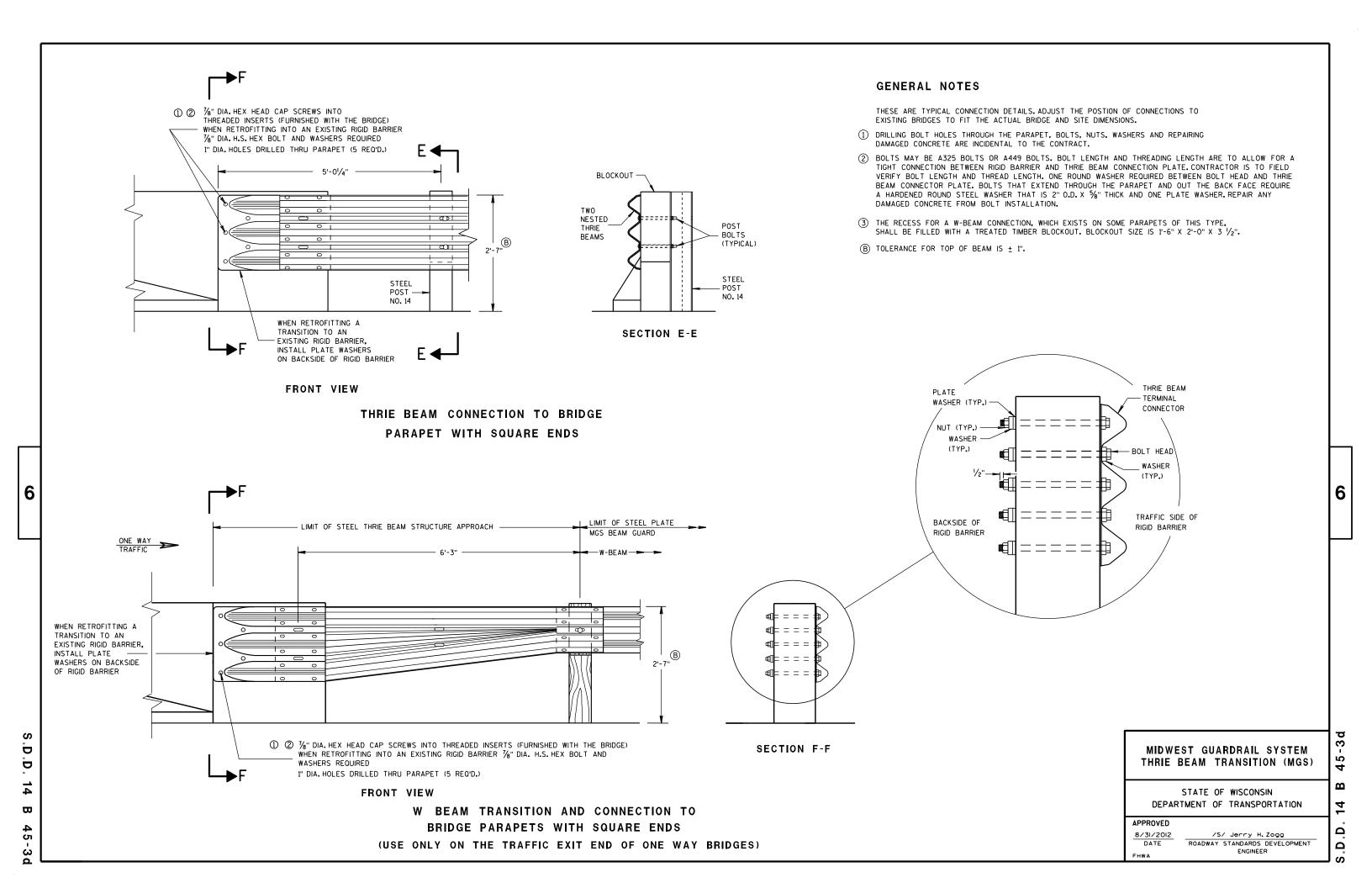
 $\mathbf{\omega}$ 14 ٠٠ ت

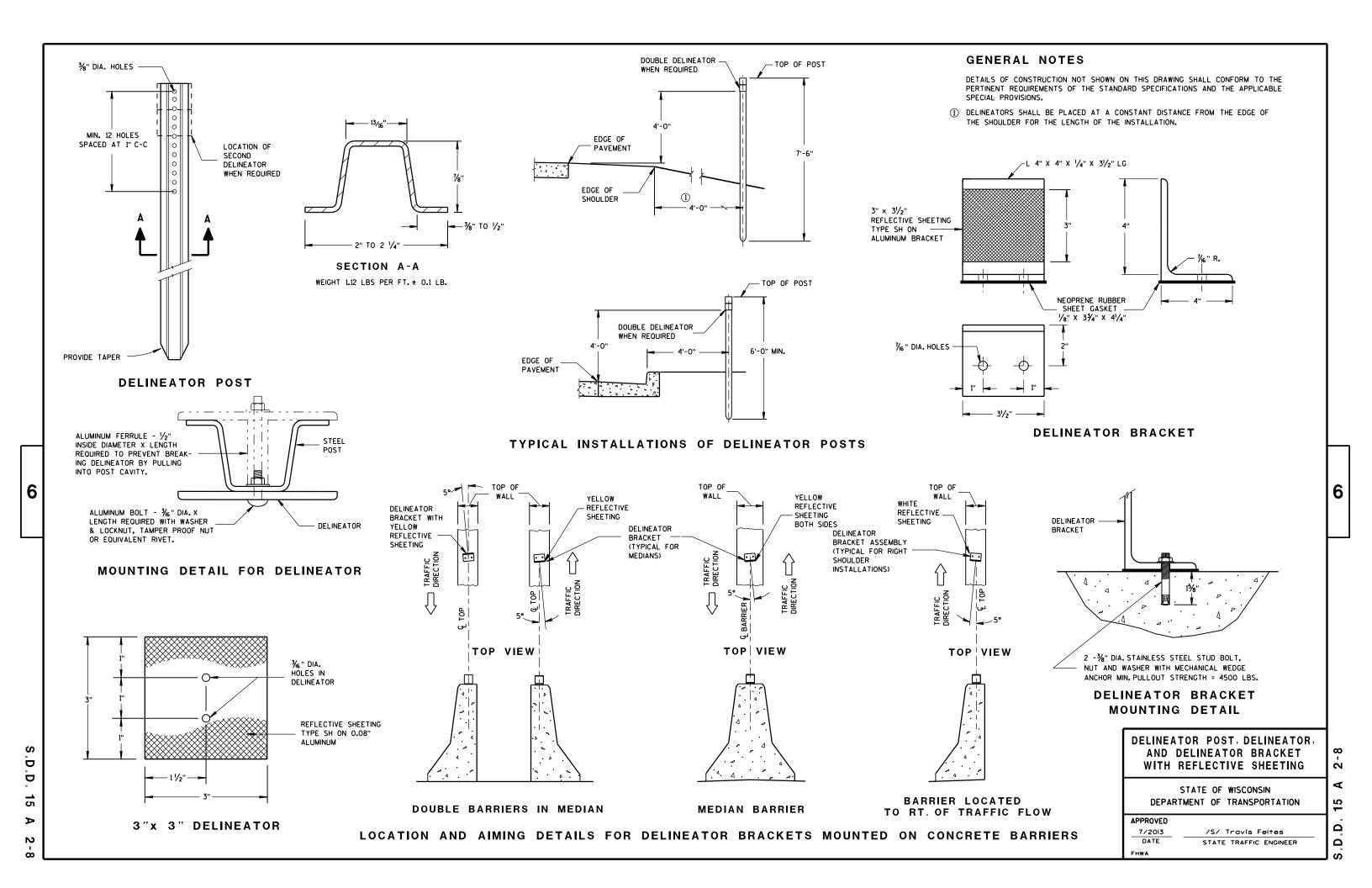






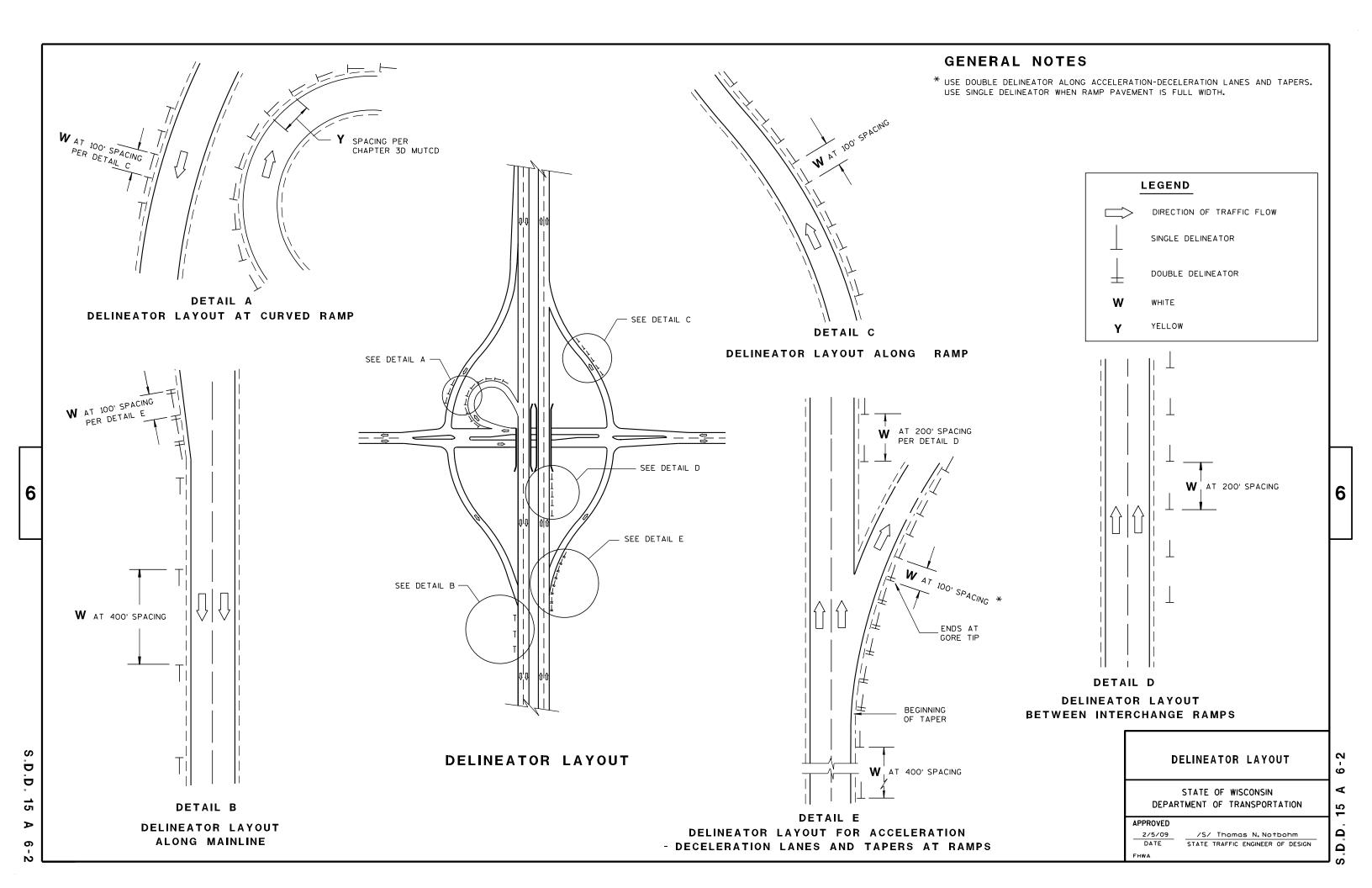












TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

6

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15

C

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

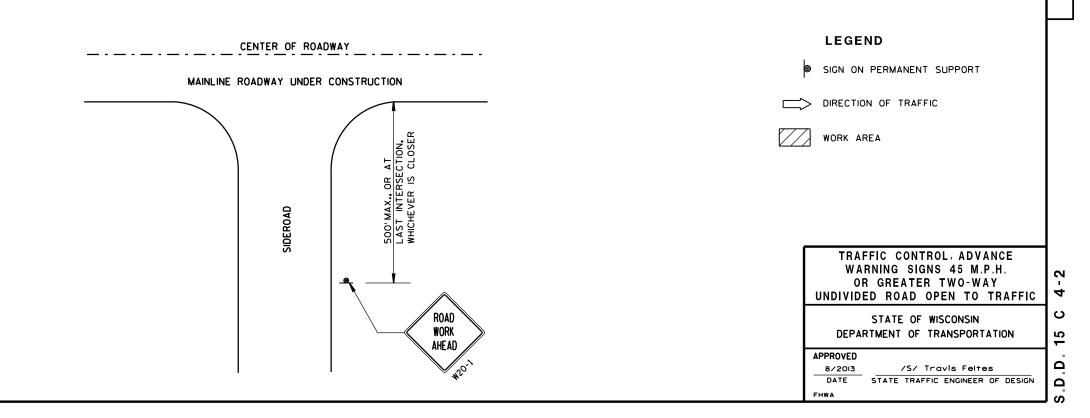
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"×48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

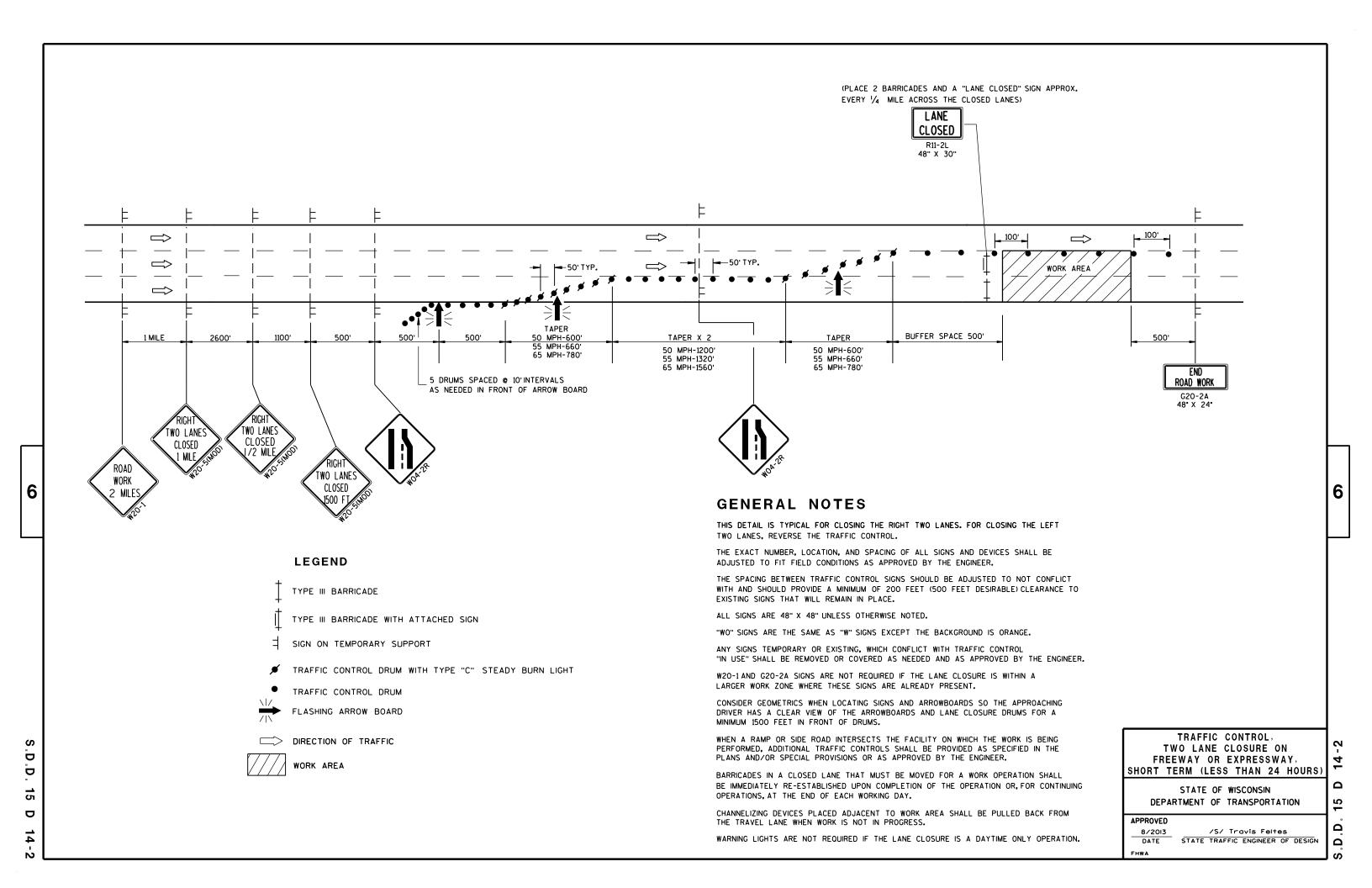
IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

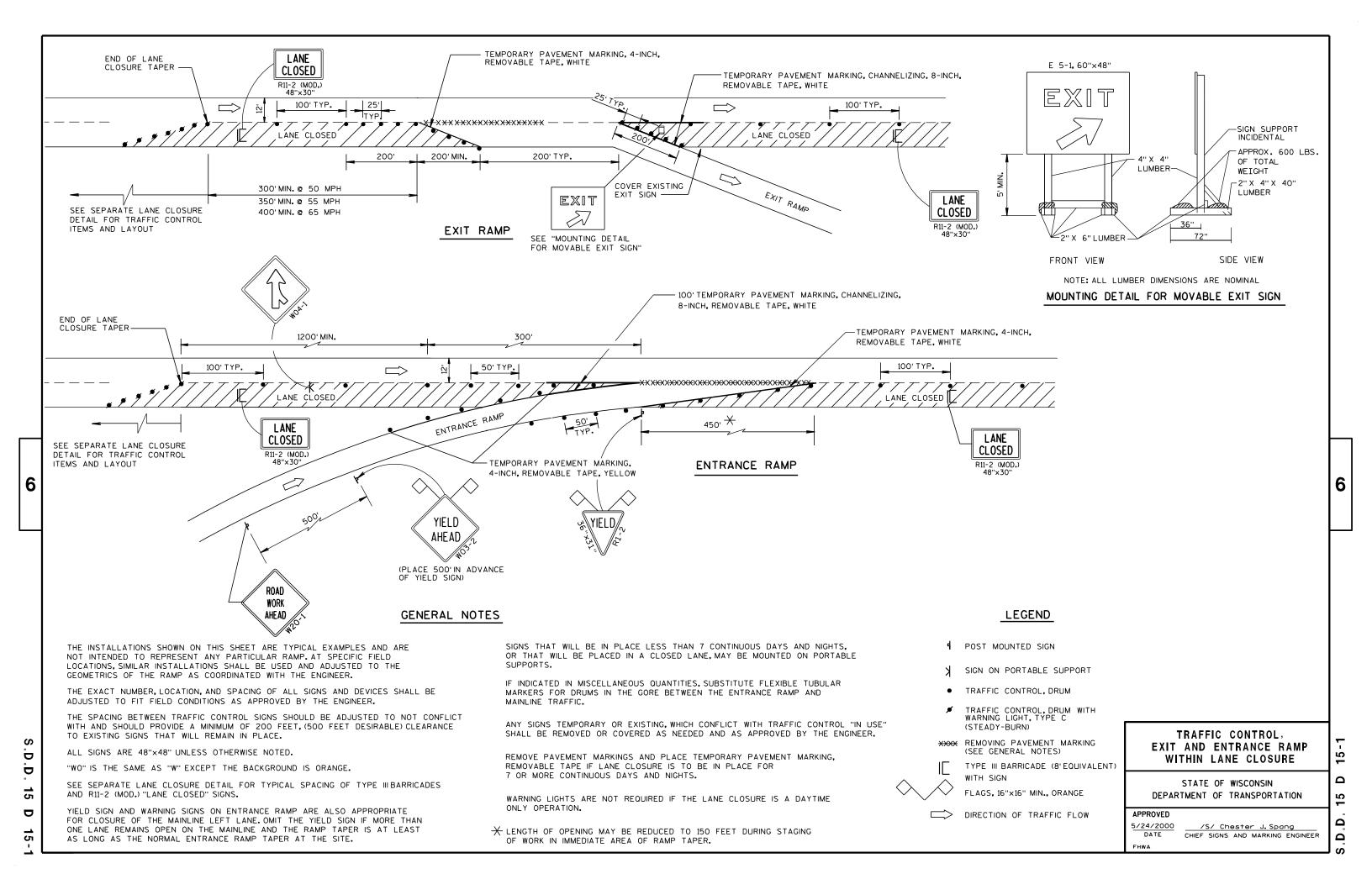
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- * PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



6







LEGEND

TYPE III BARRICADE

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

SIGN ON PERMANENT SUPPORT

(A) TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

16

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

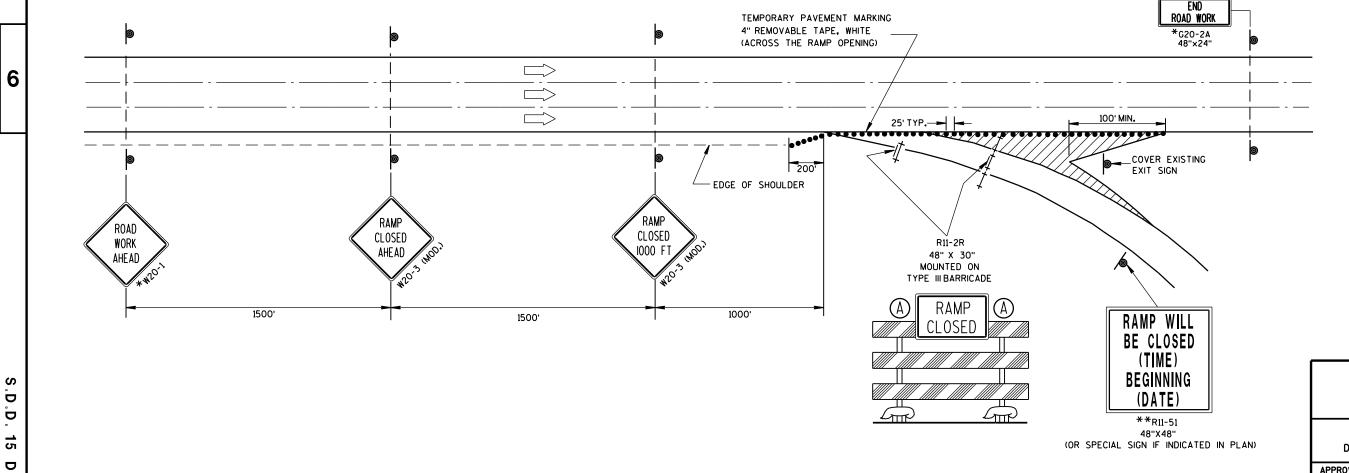
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

*W20-1AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP WILL BE CLOSED" SIGN 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

8/2013

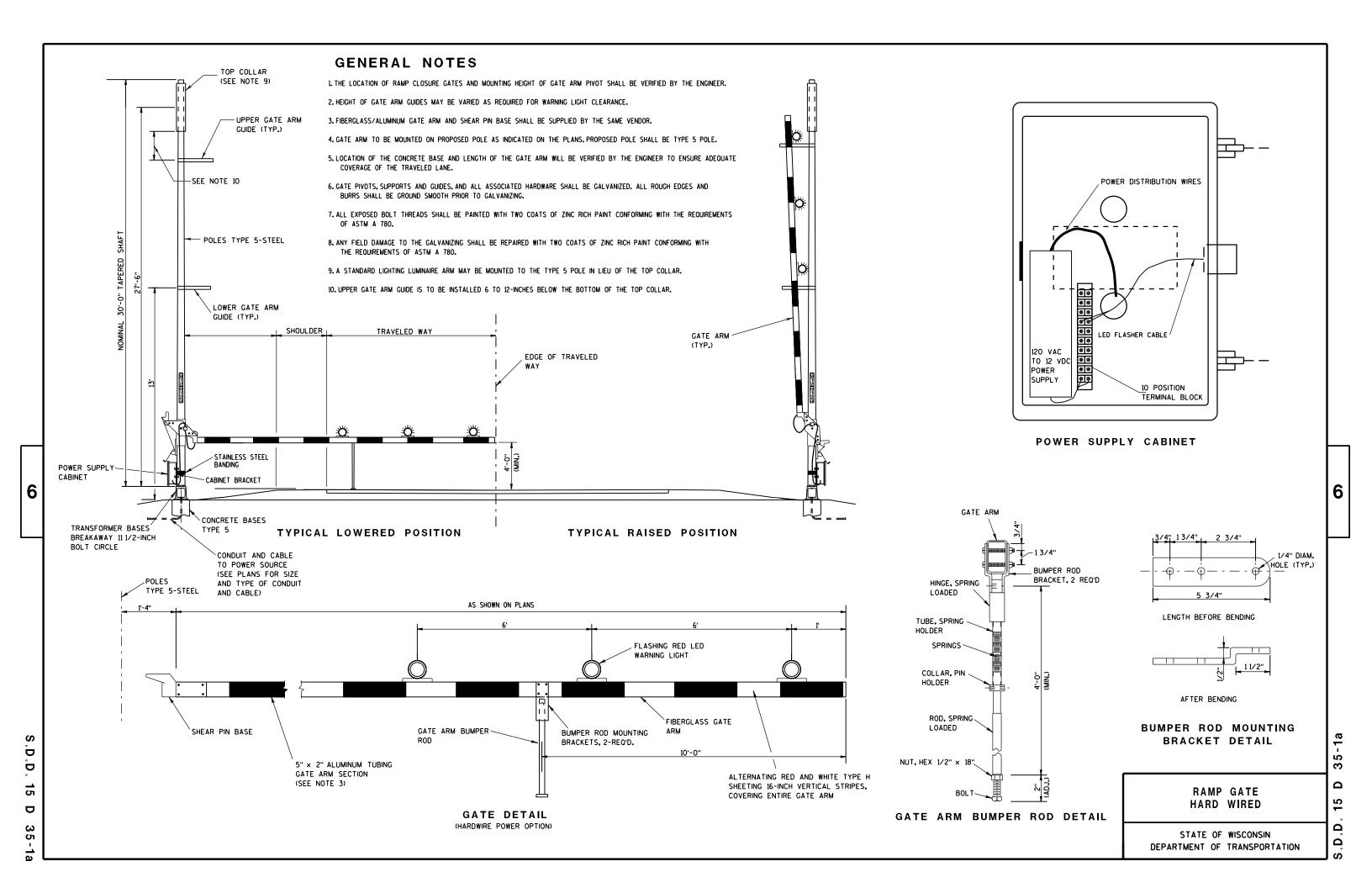
B/2013

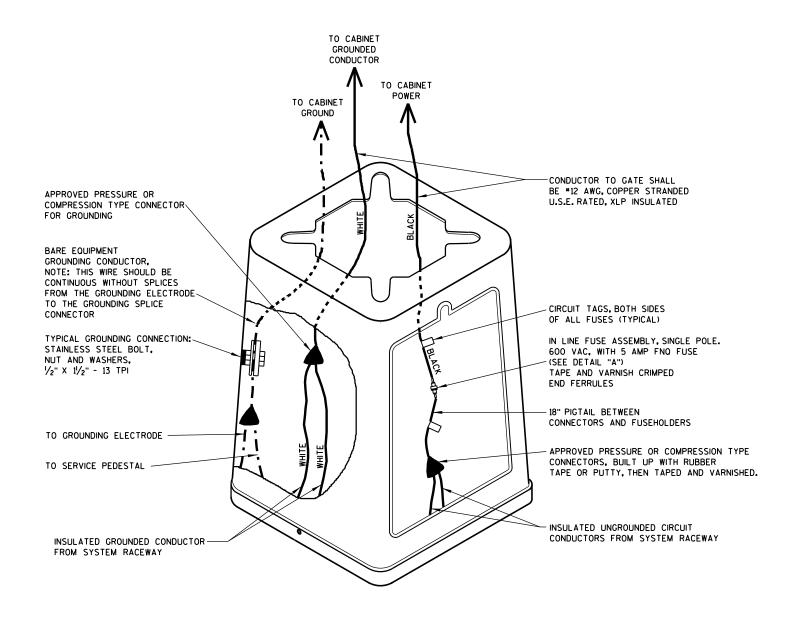
DATE

STATE TRAFFIC ENGINEER OF DESIGN
FHWA

15 D 16-2

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DETAIL "A" SINGLE POLE

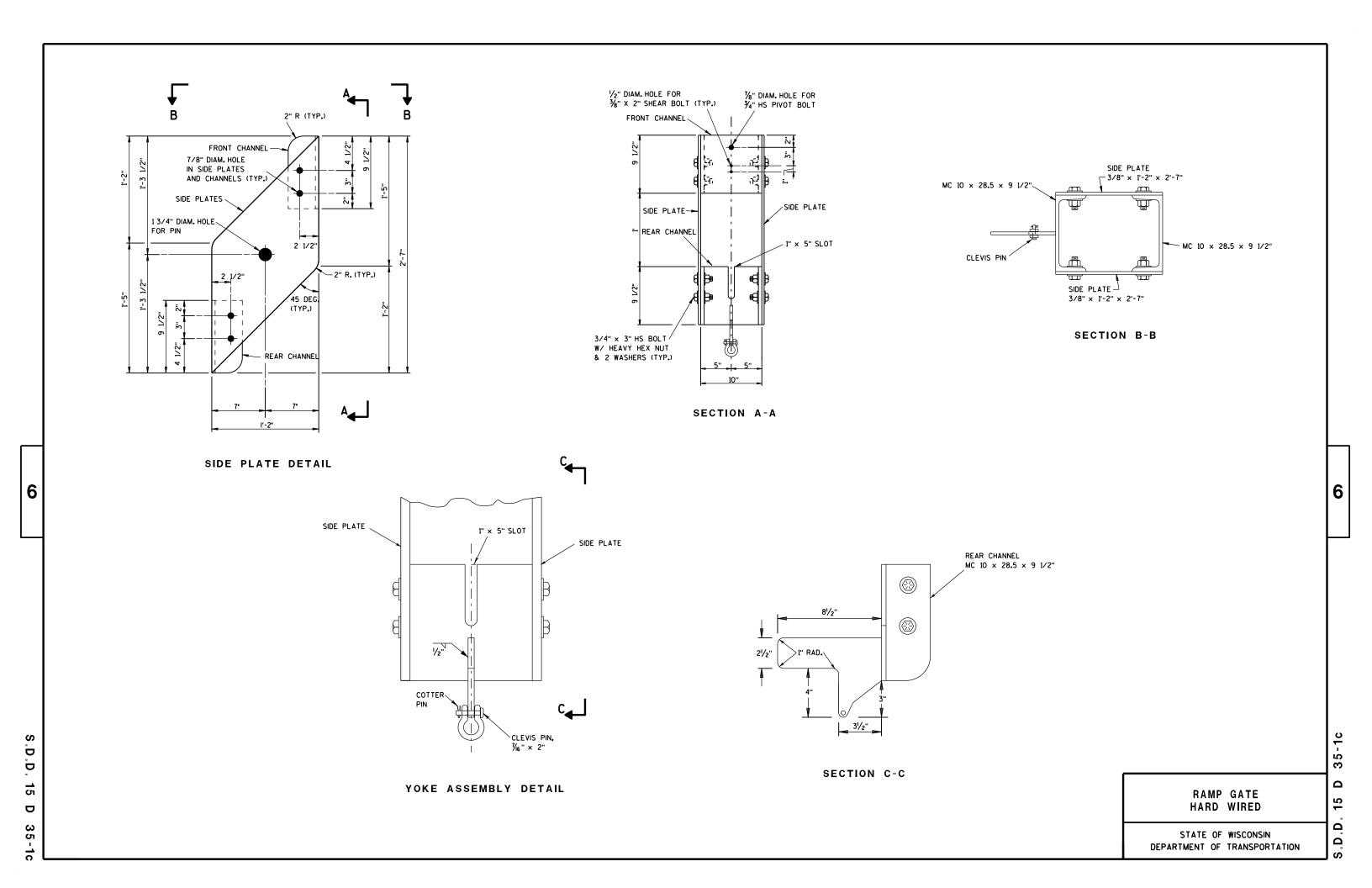
RAMP GATE HARD WIRED

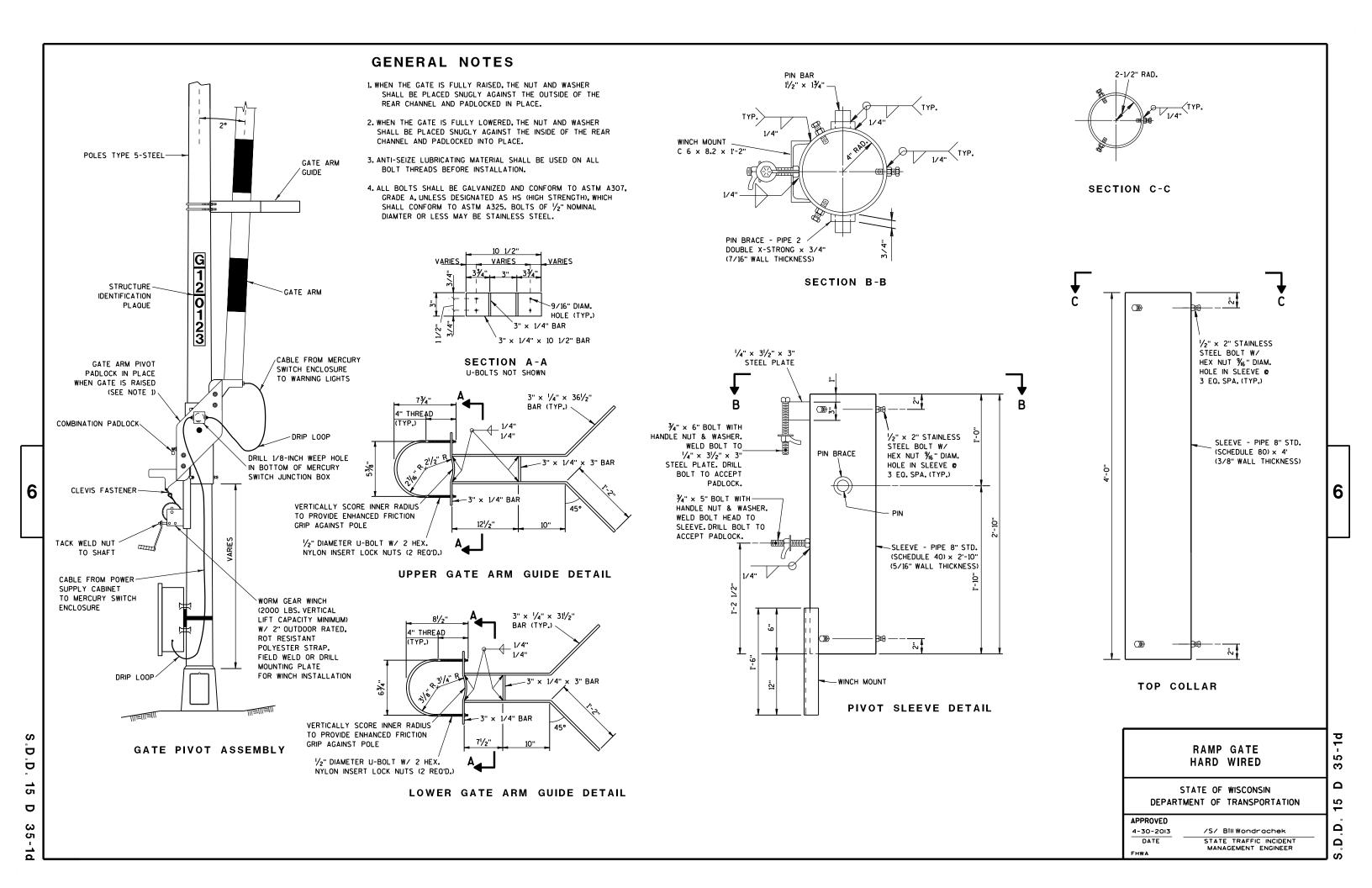
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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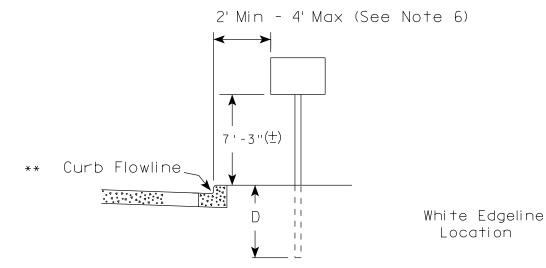
6



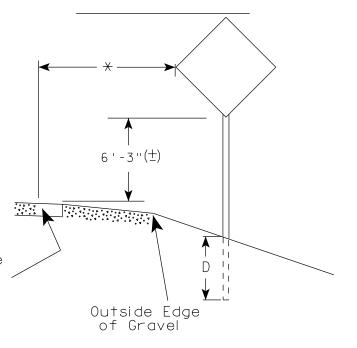




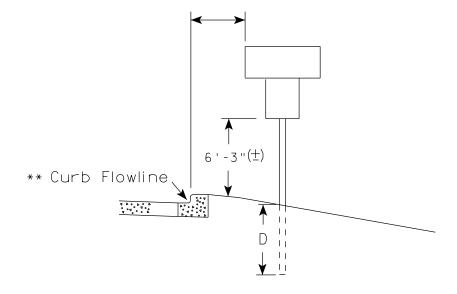
URBAN ARFA



RURAL AREA (See Note 2)



2' Min - 4' Max (See Note 6)



5'-3"(生) A POLICE AND A POL White Edgeline D^{-1} Location Outside Edae of Gravel

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where

there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

HWY:

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

PLOT BY: mscsja

GENERAL NOTES

- 1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- 2. If signs are mounted on barrier wall, see A4-10 sign plate.
- 3. For expressways and freeways, mounting height is $7'-3''(\pm)$ or 6'-3" (±) depending upon existence of a sub-sign.
- 4. Minimum mounting height for J assemblies (A2-1S) is $7'-3''(\pm)$ or $6'-3''(\pm)$ per urban or rural detail respectively.
- 5. Minimum mounting height for signs mounted on traffic signal poles is $5' - 3'' (\pm)$.
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. The (+) tolerance for mounting height is 3 inches.
- 8. Folding signs shall be mounted at a height of 5'-3'' (\pm) or as directd by the Engineer.
- 9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (\pm) . The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3'' (\pm).

POST EMBEDMENT DEPTH

Area of Sign	
Installation	D
(Sq. Ft.)	(Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

SHEET NO:

APPROVED

for State Traffic Engineer

DATE 11/12/14

PROJECT NO: FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43.DGN COUNTY:

PLOT DATE: 12-NOV-2014 14:03

PLOT NAME :



NOTES: 1. ALL MATERIAL TO BE APPROVED

BY ENGINEER PRIOR TO INSTALLATION

- 2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
- 3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

HWY:



PLAN VIEW

COUNTY:

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN

PROJECT NO:

PLOT DATE: 27-JAN-2014 09:48

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 13.659812:1.000000

APPROVED

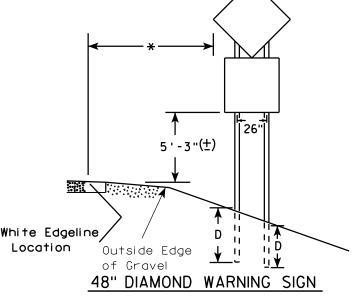
GENERAL NOTES

- 1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- 2. See tables below for required number of posts.
- 3. For expressways and freeways. mounting height is 7'-3'' (±) or 6'-3'' (±) depending upon existence of sub-sign.
- 4. The (±) tolerance for mounting height is 3 inches.
- 5. Minimum mounting height for J assemblies (A2-1S) is 7'-3'' (±) or 6'-3'' (±) per urban or rural detail respectively.
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
- 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8). Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).
- * 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.
- ** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.
- *** See A4-3 sign plate for signs 4' or less in width or less than 20 S.F. in area.

URBAN AREA RURAL AREA (See Note 3) 2'Min - 4'Max (See Note 6) ₩E# FF# 6'-3"(±) 6'-3"(±) 7'-3"(±) ** Curb ********\ Flowline D **7000** White Edgeline

2'Min - 4'Max (See Note 6) 6'-3"(±) Curb Flowline. 48" DIAMOND WARNING SIGN

D 11



COUNTY:

Outside Edge

of Gravel

	SIGN SHAPE OTHER THAN (TWO POSTS REQUIRED	
	L	E
* * *	Greater than 48" Less than 60"	12"
	60" to 120"	L/5

SIGN SHAPE OTHER THAN (THREE POSTS REQUIR	
L	E
Greater than 120" less than 168"	12"

HWY:

White Edgeline,

Location

SIGN SHAPE OTHER THAN (FOUR POSTS REQUIRE	
L	E
168" and greater	12"

Location

Outside Edae

of Gravel

POST EMBEDMENT DEPTH

Area of Sign	
Installation	D
(Sq. Ft.)	(Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

Matther

PLATE NO. A4-4.13

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A44.DGN

PROJECT NO:

PLOT DATE: 12-NOV-2014 14:01

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 107.021305:1.000000

WISDOT/CADDS SHEET 42

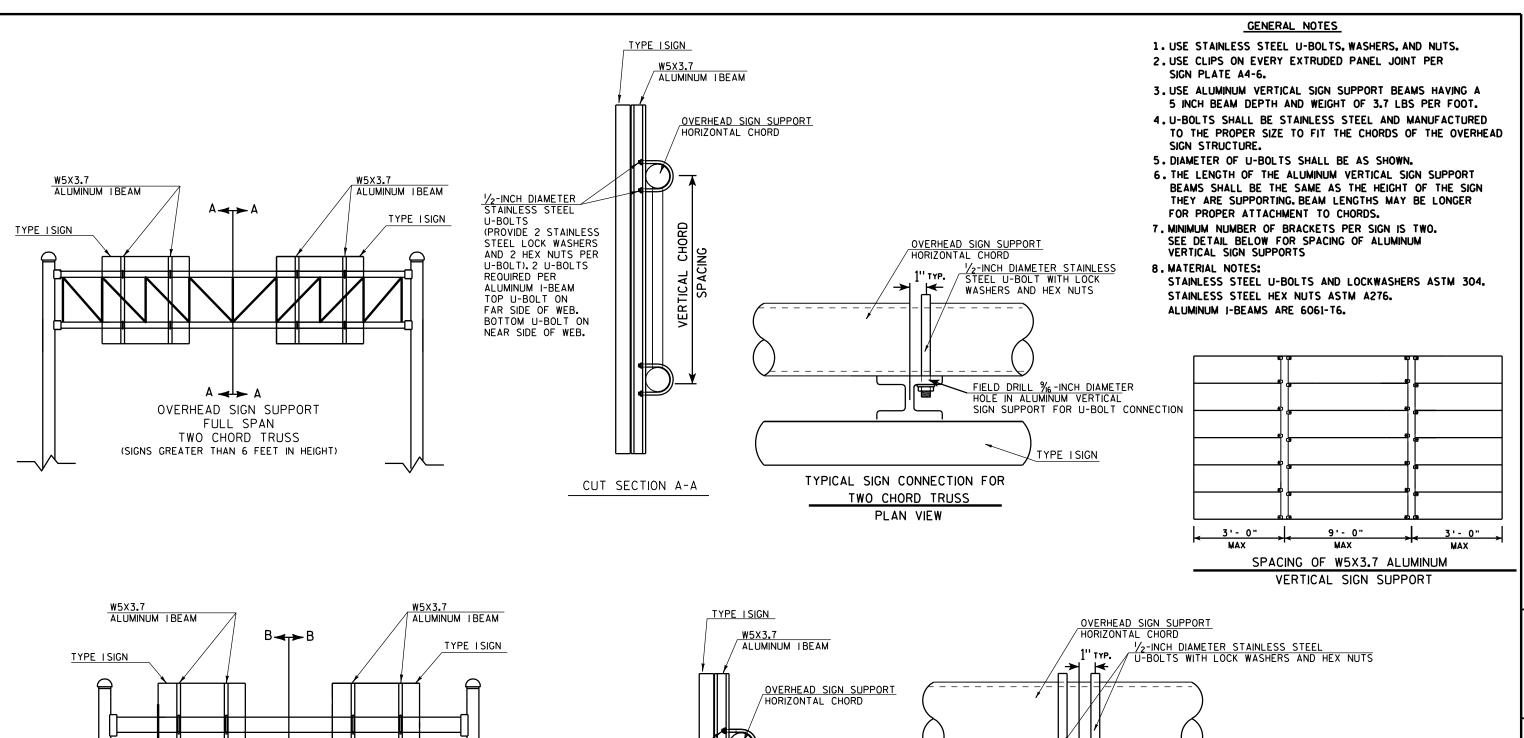
SHEET NO:

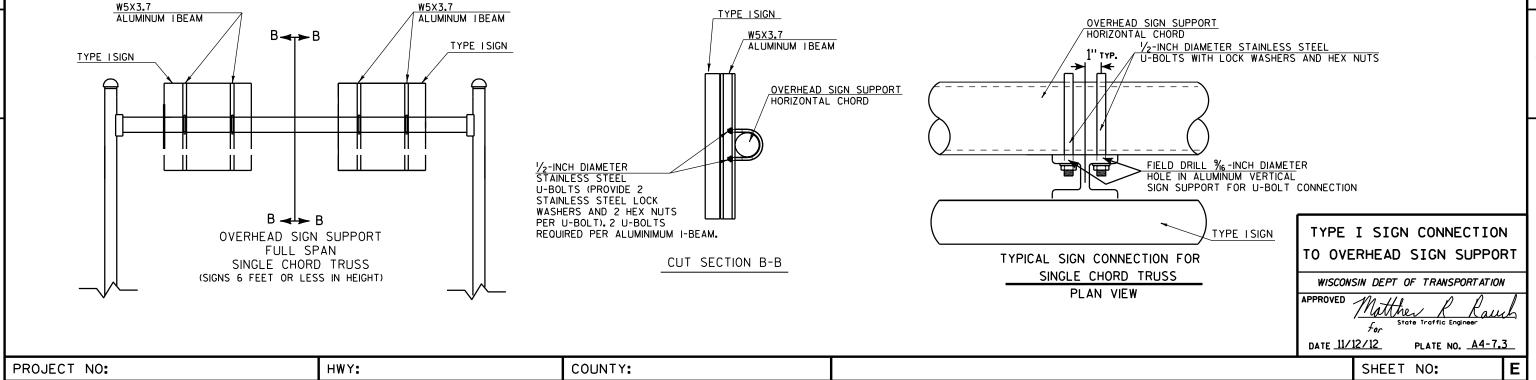
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer

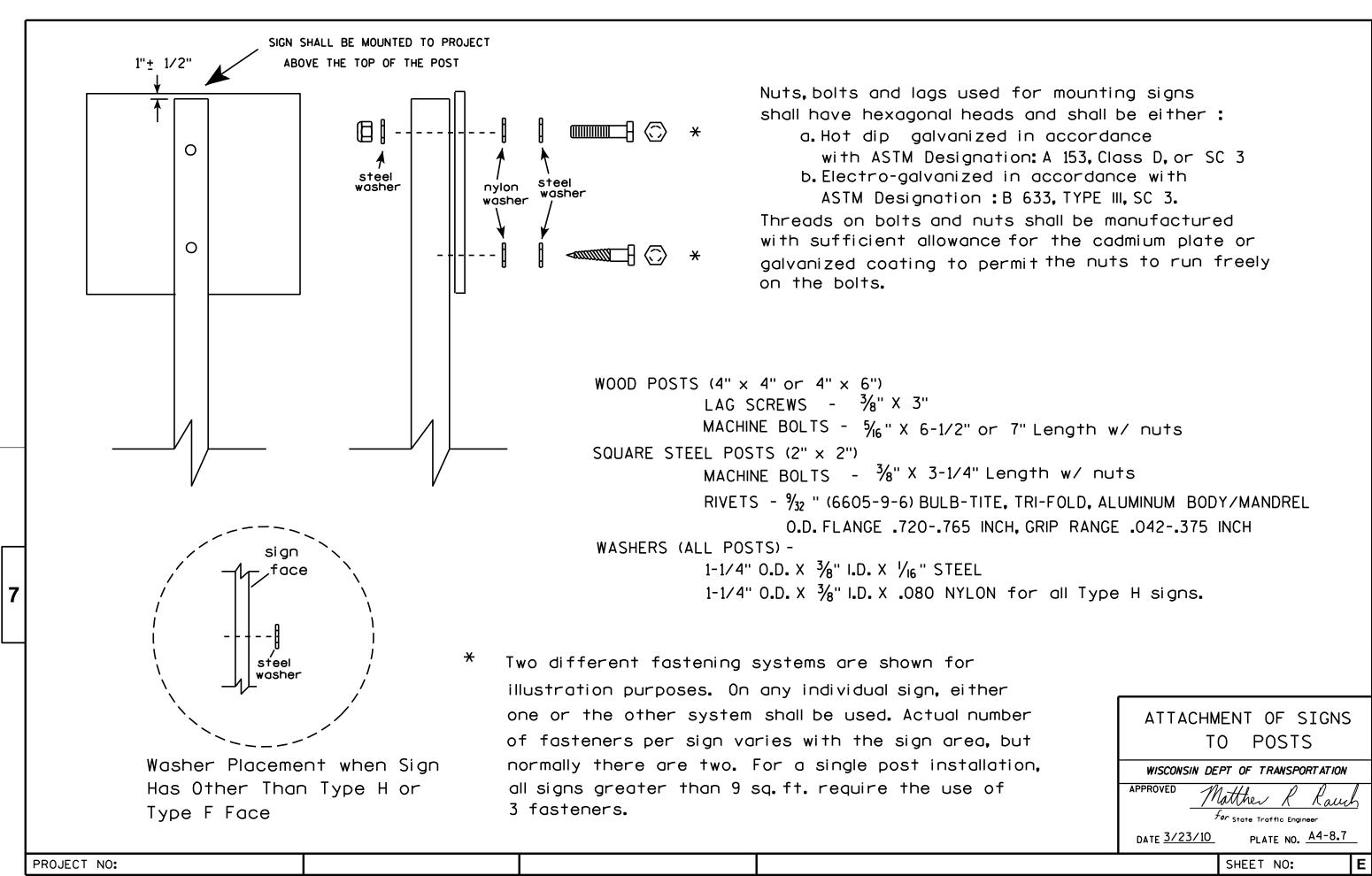
DATE 11/12/14





FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A47.DGN

PLOT BY : msc i9h



- 1. Sign is Type II See Note 6 reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - Top Red - Bottom Blue (See Note 6) Message - White - See Note 6

- 3. Message Series See note 5
- 4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
- 5. M1-1 Numerals D Interstate - C

M1-1A - All copy - C

6. Permanent Signs

Message - Type H Reflective

Detour or other temporary signs

Background - Reflective Message - Reflective

7

Metric equivalent for these signs are:

M1-1

HWY:

SIZE	M1 - 1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

	300	1111111	X 900	J 111111	1 2 1	300 1	11111 X I	123 11111	<u>'</u>																	M1 - 1	W1-1A	M1 - 1	W1-1A
SIZE	Α	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	Q	R	S	T	U	٧	W	Х	Y	Area sq. ft.	Area sq. ft.	Area m2	Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 ½	15	24	17	7 1/8								30			3.13	3.91	. 36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36		·		3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4	·						·	45			7.03	8.79	. 81	1.05
5	36		·		3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 ½	11 3/4								45			7.03	8.79	. 81	1.05

COUNTY:

INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew A

 f_{or} State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

SHEET NO:

FILE NAME : C:\Users\Projects\tr_stdplate\M11.DGN

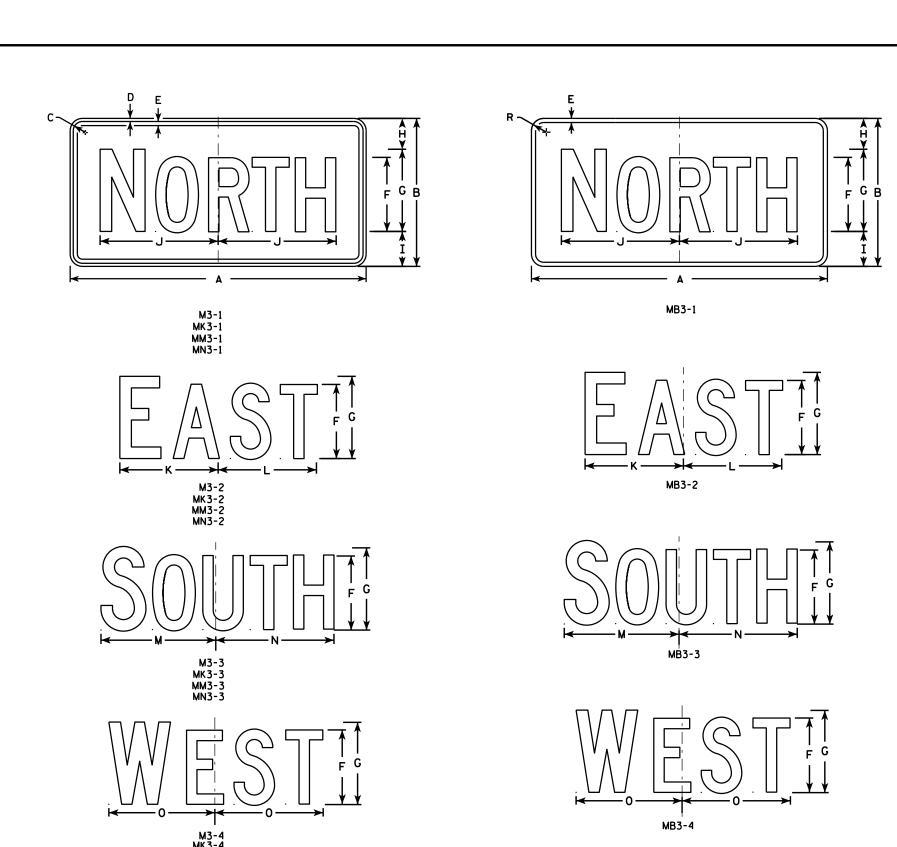
PROJECT NO:

PLOT DATE: 13-0CT-2005 14:49

M1-1A

PLOT BY : DITJPH PLOT NAME :

PLOT SCALE: 7.947778:1.000000



- 1. All Signs Type II Type H
- 2. Color:

Background - See note 5 Message - See note 5

- 3. Message Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. M3-1 thru M3-4 Background White

Message - Black

MB3-1 thru MB3-4 Background - Blue

Message - White

MK3-1 thru MK3-4 Background - Green

Message - White

MM3-1 thru MM3-4 Background - White

Message - Green

MN3-1 thru MN3-4 Background - Brown

Message - White

6. Note the first letter of each direction is larger than the remainder of the message.

	P-CMM																									
SIZE	Α	В	С	D	E	F	G	Н	I	J K	L	М	N	0	Р	0	R	S	T	U	v	W	Х	Y	Z	Areq sq. ft.
SIZE 1																										
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4 7 1/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8 12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8 12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8 12	12 1/8	14	14 1/8	13			1 1/2									4.5

COUNTY:

STANDARD SIGNS M3-1 thur M3-4 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther & Rauch

For State Traffic Engineer

DATE 6/30/14 PLATE NO. M3-1.13

SHEET NO:

07.001/5...14.675054.4.000000

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M31.DGN

HWY:

PROJECT NO:

PLOT DATE: 30-JUN-2014 12:53

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 11.675051:1.000000

- 1. Sign is Type II Type F Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - Orange Message - Black

- 3. Message Series B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

	G
	F B G G G G G G G G G G G G G G G G G G
A M4 - 8	Y

Α С E F G H I J S Х Z D 0 10 10 1/4 1 1/8 3/8 3/8 24 2.0 3 36 1 1/8 3/8 1/2 4 1/2 14 5/8 14 1/2 4.5 4 5

COUNTY:

STANDARD SIGN M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

SHEET NO:

PROJECT NO:

HWY:

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.

2. Color:

Background - Orange Message - Black

- 3. Message Series B
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

 $D \longrightarrow$ Н M4-8A

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	Т	U	٧	w	Х	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 ¾																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

COUNTY:

STANDARD SIGN M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther For State Traffic Engineer

SHEET NO:

DATE 3/9/11

PLATE NO. M4-8A.2

PLOT SCALE: 3.972696:1.000000

WISDOT/CADDS SHEET 42

FILE NAME : C:\Users\PROJECTS\tr_stdplate\M48A.DGN

HWY:

PROJECT NO:

PLOT DATE: 09-MAR-2011 10:29

PLOT BY: mscj9h

- Signs are Type II See Note 4 reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - See note 4 Message - See note 4

- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. M5-1 and M5-2 Background White Type H Reflective Message Black
 - MB5-1 and MB5-2 Background Blue

 Message White Type H Reflective
 - MG5-1 and MG5-2 Background Green

 Message White Type H Reflective
 - MK5-1 and MK5-2 Background Green
 - Message White Type H Reflective
 - MM5-1 and MM5-2 Background White Type H Reflective Message Green
- MN5-1 and MN5-2 Background Brown

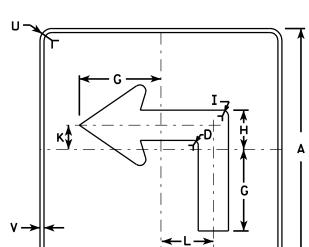
Message - White - Type H Reflective

- M05-1 and M05-2 Background Orange Type F Reflective Message - Black
- MP5-1 and MP5-2 Background White Type H Reflective Message Blue
- MR5-1 and MR5-2 Background Brown
 - Message Yellow Type H Reflective
- 5. M5-1R same as M5-1L except arrow points right.
- 6. M5-2R same as M5-2L except arrow tilts right.

c —	
D → E →	
Į.	←
·	M5-2L
	MK5-2L

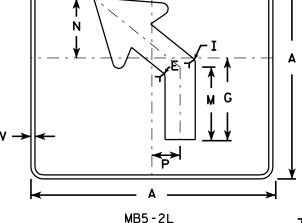
MK5-1L MM5-1L MO5-1L MP5-1L MR5-1L

M5-1L



MB5-1L MG5-1L MN5-1L

HWY:



MG5-2L

MN5-2L

MM5-2L

M05-2L

MP5-2L

MR5-2L

T A S

SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	M	N	0	Р	0	R	S	T	U	٧	₩	Х	Y	Z	Areo sq. fi
1																											
2	21		1 1/8	3%	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 %	5 1/4	5	2 1/2		1/2	2 %	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7 /8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 1/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7 /8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 1/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 1/8	½		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 1/8	1/2					6.25

COUNTY:

STANDARD SIGN M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

For State Traffic Engineer
DATE 7/29/13 PLATE NO. M5-1.12

SHEET NO:

PROJECT NO:

- 1. Signs are Type II Type H except as Shown
- 2. Color:

Background - See note 4 Message - See note 4

- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. M6-1 and M6-2 Background White

Message - Black

MB6-1 and MB6-2 Background - Blue

Message - White

MG6-1 and MG6-2 Background - Green

Message - White

MK6-1 and MK6-2 Background - Green

Message - White

MM6-1 and MM6-2 Background - White

Message - Green

MN6-1 and MN6-2 Background - Brown

Message - White

M06-1 and M06-2 Background - Orange - Type F Reflective

Message - Black

MP6-1 and MP6-2 Background - White

Message - Blue

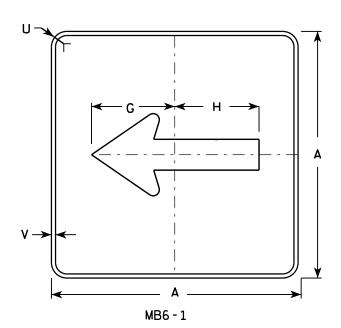
MR6-1 and MR6-2 Background - Brown

Message - Yellow

c —	
D -> E ->	
-	A
	M6 - 2
	MK 6 - 2



- MM6-2 MN6 - 2
- MO6-2
- MP6-2
- MR6-2



HWY:

M6 - 1

MK6-1

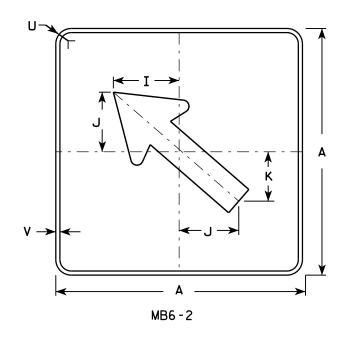
MM6 - 1

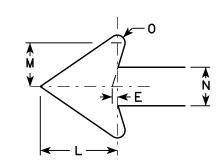
MN6-1

MO6 - 1

MP6-1

MR6-1





SIZE	Α	В	С	D	Е	F	G	Н	I	J	K	L	М	N	0	Р	0	R	S	T	U	٧	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 %	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 1/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 1/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 1/8	1/2					6.25

COUNTY:

STANDARD SIGN M6-1 & M6-2**SERIES**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

DATE 7/03/14 PLATE NO. M6-1.14

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M61.DGN

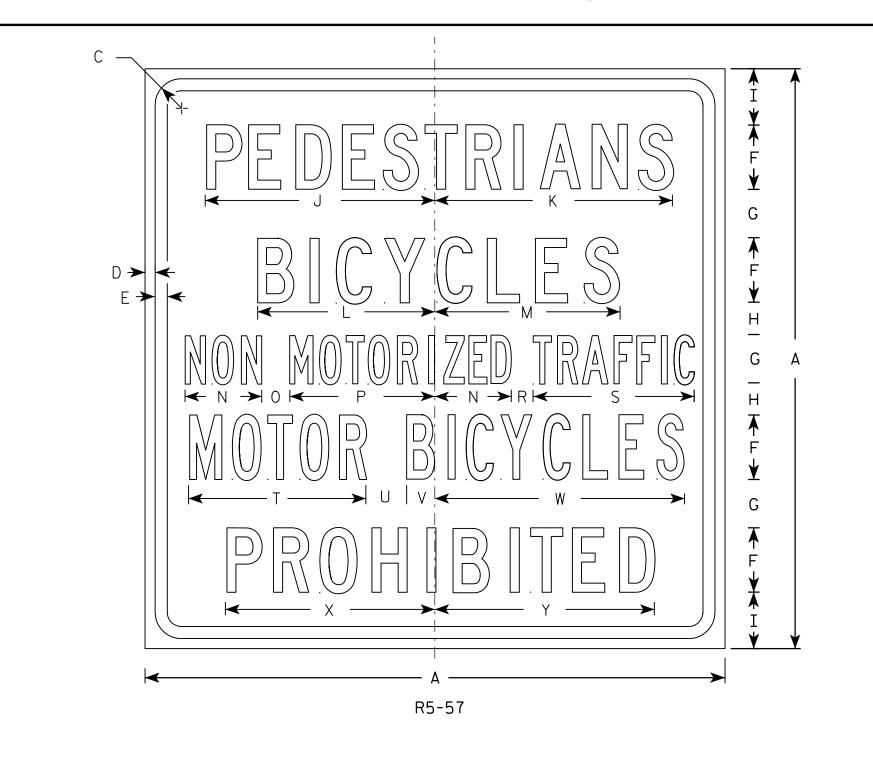
PROJECT NO:

PLOT DATE: 03-JUL-2014 14:28

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 11.675051:1.000000



- 1. Sign is Type II Type H Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - White Message - Black

- 3. Message Series Lines 1, 2, and 5 are Series C. Lines 3 and 4 are Series B.
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE 2M 3 4 5/8 3 1/2 14 1/4 14 7/8 11 11 1/2 4 3/4 1 3/4 1 3/8 2 1/2 1 3/4 15 1/2 13 36 1 1/8 3/4 3 1 1 13 % 9.0 4 11 1/2 4 3/4 1 3/4 5 3 $3 \frac{1}{2} 14 \frac{1}{4} 14 \frac{7}{8} 11$ $1\frac{3}{8}$ 2 1/2 1 3/4 | 15 1/2 36 2 13 9.0 11

COUNTY:

STANDARD SIGN R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

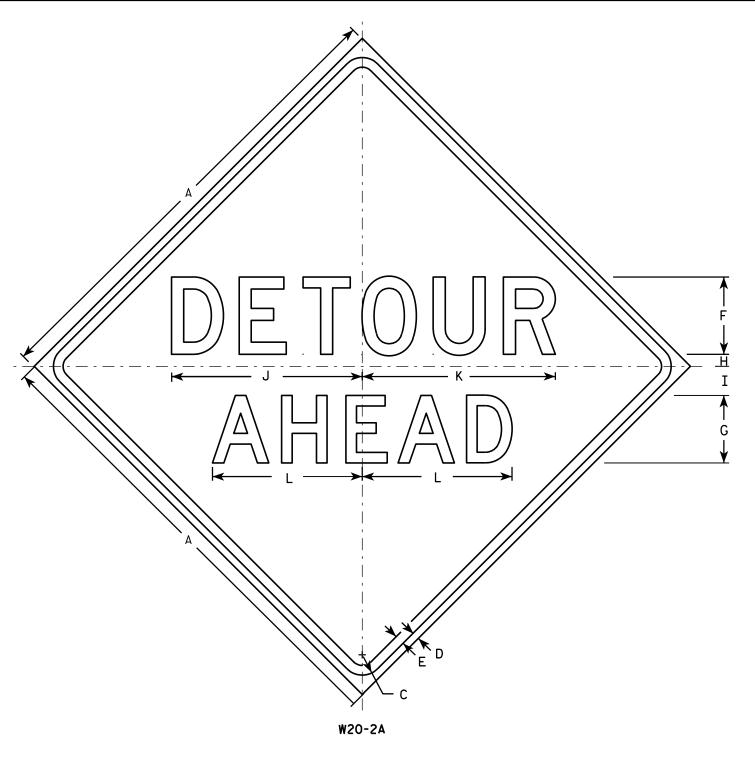
Matther R Rauh

DATE 3/29/2011 PLATE NO. R5-57.10

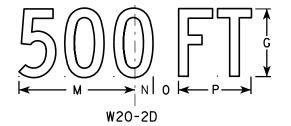
SHEET NO:

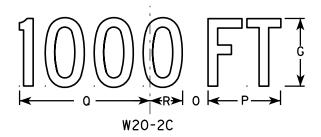
PROJECT NO:

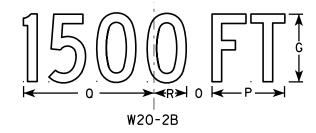
HWY:

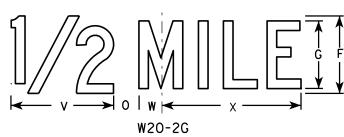


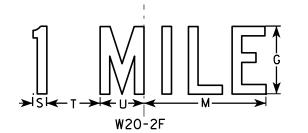
HWY:











PLOT BY: mscj9h

<u>NOTES</u>

- Sign is Type II Type F Reflective reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - Orange Message - Black

- 3. Message Series See note 5
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Line 1 is Series D.
 Line 2 is Series D for AHEAD and
 Series C for all other distances.

SIZE	Α	В	С	D	E	F	G	н	I	J	K	L	М	N	0	Р	0	R	S	T	U	٧	W	X	Y	Z	Area sq. ft.
1	36		1 1/8	5/8	₹4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 1/8	5 %	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 1/8	2 %	7 1/2	13 1/2	3 %	1 1/2	6	4 5/8	10 %	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 1/8	2 %	7 1/2	13 1/2	3 %	1 1/2	6	4 5/8	10 %	2 3/8	14 3/8			16.0
3	48		2 1/4	3∕4	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 %	2 %	7 1/2	13 1/2	3 %	1 1/2	6	4 %	10 %	2 3/8	14 3/8			16.0
4	48		2 1/4	¾	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 1/8	2 %	7 1/2	13 1/2	3 ³ %	1 1/2	6	4 %	10 %	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 ¾	20	15 1/2	12	1 %	2 %	7 1/2	13 1/2	3 ¾	1 1/2	6	4 %	10 %	2 3/8	14 3/8			16.0

COUNTY:

STANDARD SIGN W20-2A,B,C,D,F & G

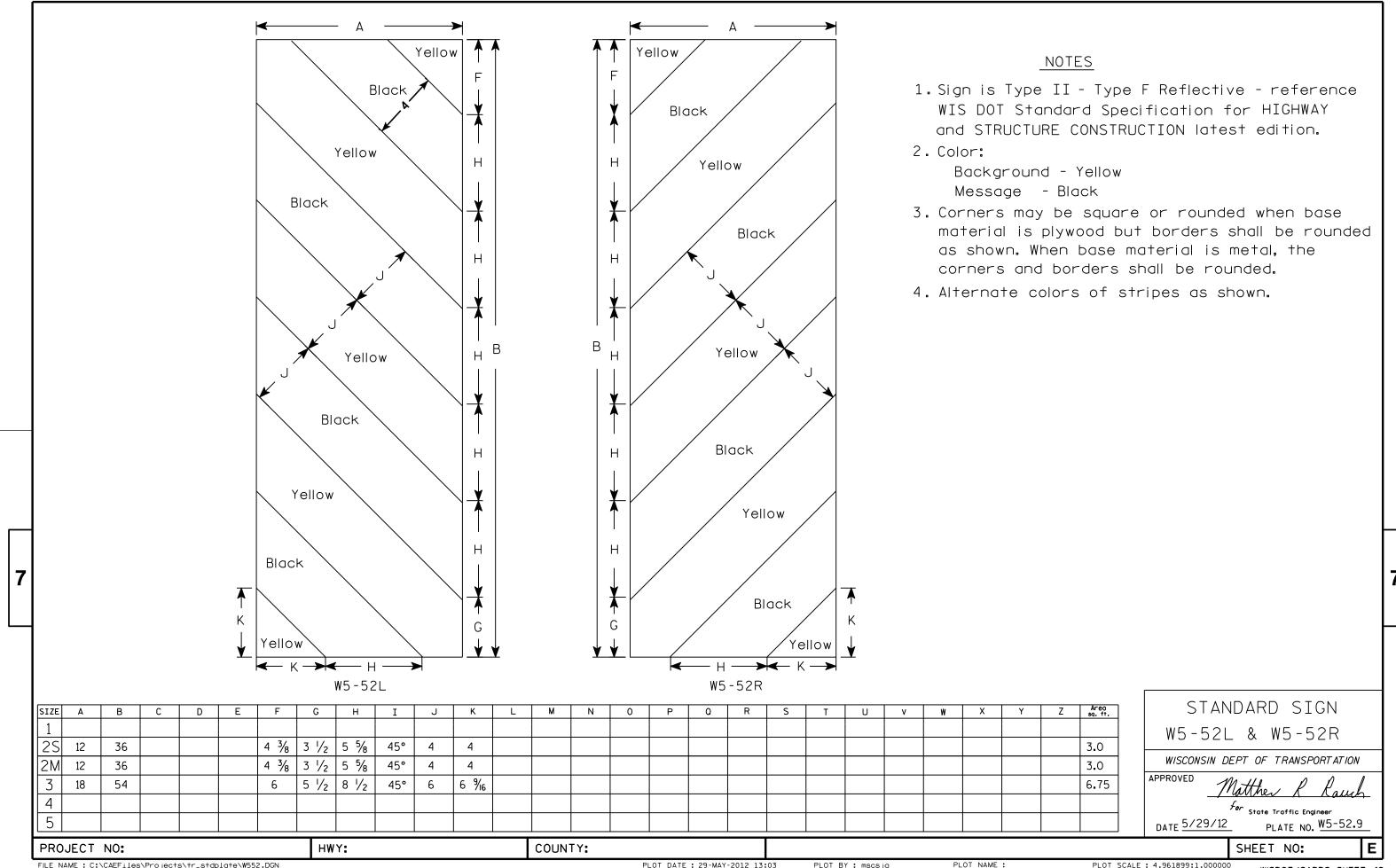
WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

SHEET NO:

PROJECT NO:



EARTHWORK TABULATION - USH 151 RAMP

EXPANSION FACTOR = 1.3

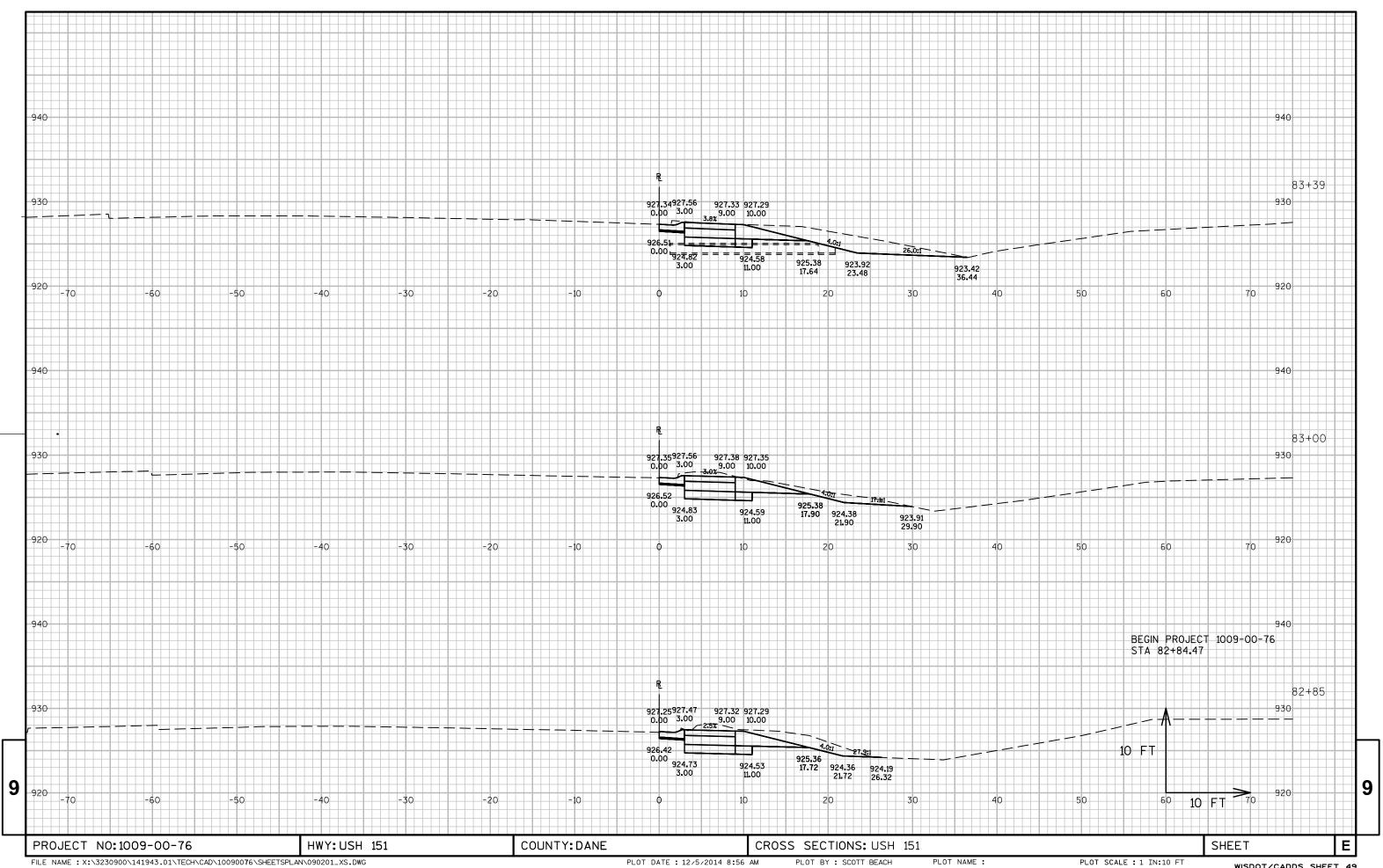
	END	AREA	INCREMEN	TAL VOLUME	CUMMULATI	VE VOLUME	MASS ORDINATE
	CUT	FILL	CUT	EXP FILL	CUT	EXP FILL	
STATION	(SF)	(SF)	(CY)	(CY)	(CY)	(CY)	(CY)
82+85	46.3	0.0	0.0	0.0	0.0	0.0	0.0
83+00	42.1	0.0	25	0	25	0	25
83+50	54.9	0.0	90	0	115	0	115
84+00	49.1	0.0	96	0	211	0	211
84+50	33.9	0.0	77	0	288	0	288
85+00	40.7	0.0	69	0	357	0	357
85+50	44.8	0.0	79	0	437	0	437
86+00	48.6	0.0	86	0	523	0	523
86+50	59.8	0.0	100	0	623	0	623
87+00	59.8	0.0	111	0	734	0	734
87+50	44.1	0.0	96	0	830	0	830
88+00	55.0	0.0	92	0	922	0	922
88+50	53.9	0.0	101	0	1023	0	1023
89+00	60.8	0.0	106	0	1129	0	1129
89+50	50.5	0.0	103	0	1232	0	1232
90+00	52.2	0.0	95	0	1327	0	1327
90+50	45.2	0.0	90	0	1417	0	1417
91+00	45.4	0.0	84	0	1501	0	1501
91+50	46.2	0.0	85	0	1586	0	1586
92+00	49.3	0.0	88	0	1674	0	1674
92+50	43.5	0.0	86	0	1760	0	1760
93+00	50.6	0.0	87	0	1848	0	1848
93+50	64.0	0.0	106	0	1954	0	1954
94+00	46.3	0.0	102	0	2056	0	2056
94+50	48.7	0.0	88	0	2144	0	2144
95+00	53.5	0.0	95	0	2238	0	2238
95+50	50.4	0.0	96	0	2335	0	2335
96+00	51.0	0.0	94	0	2428	0	2428
96+50	47.5	2.4	91	3	2520	3	2517
97+00	51.8	0.0	92	3	2612	6	2606
97+50	64.4	0.0	108	0	2719	6	2713
97+90	62.1	0.0	94	0	2813	6	2807
-		TOTAL	0040				

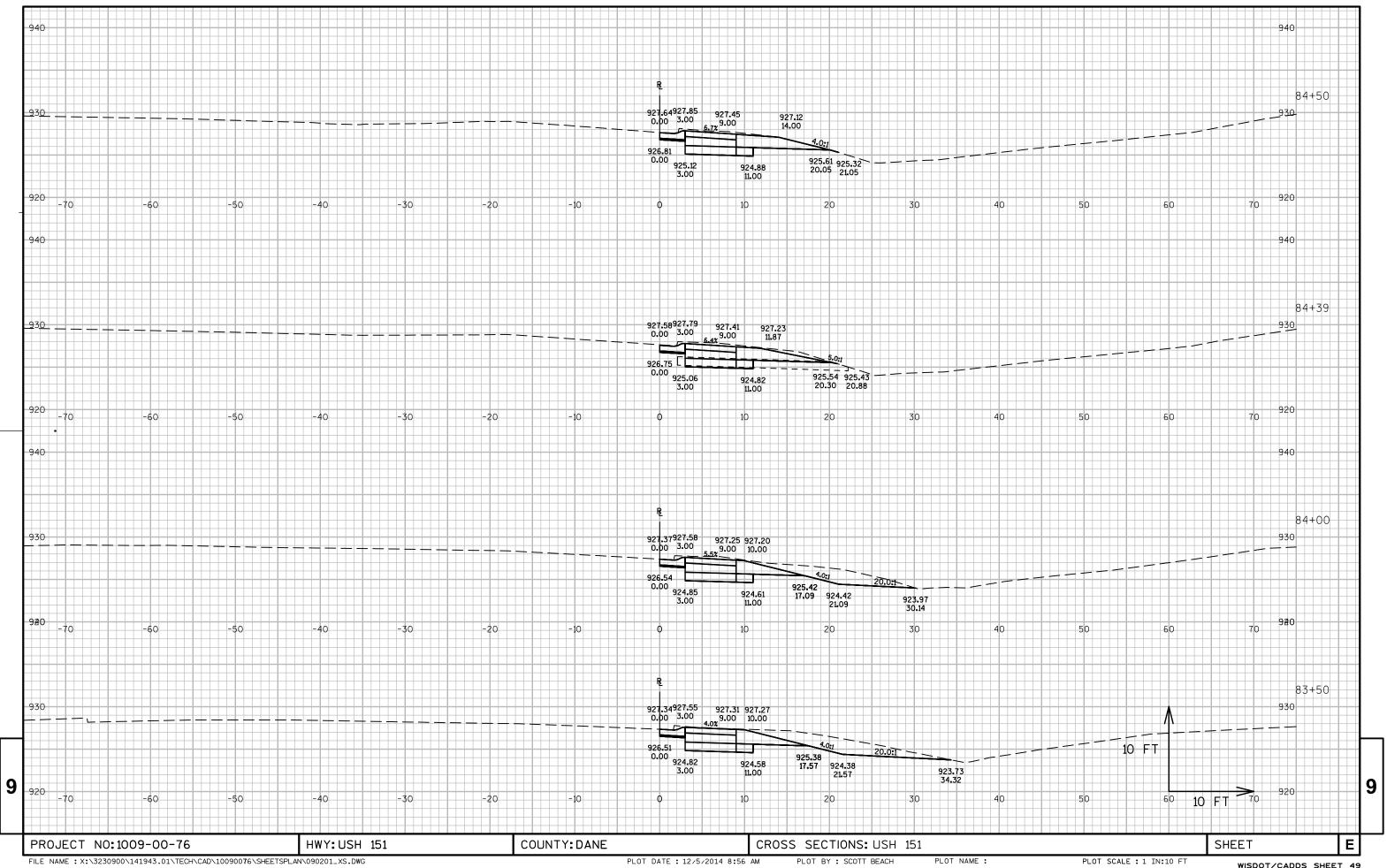
TOTAL 2813

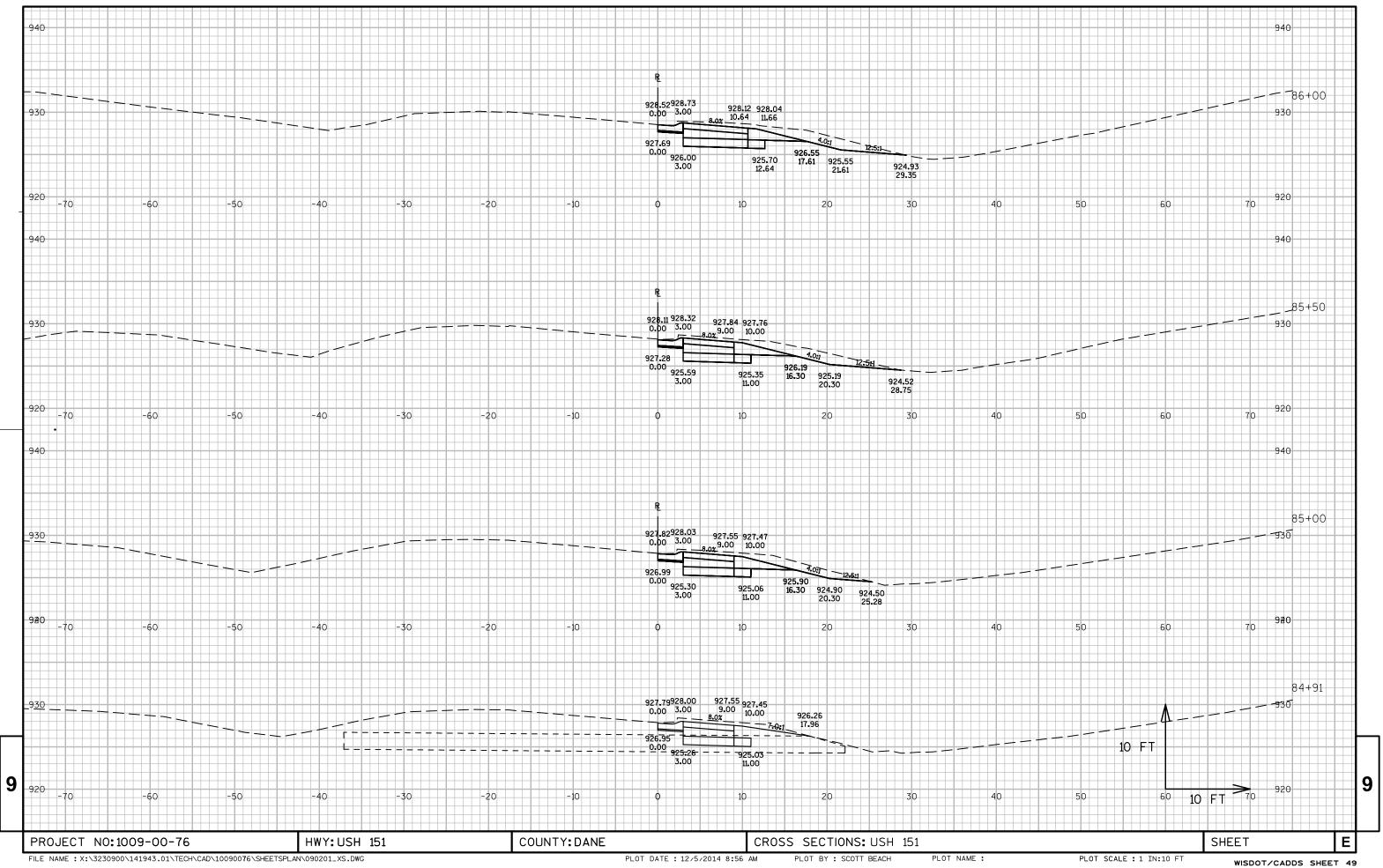
9

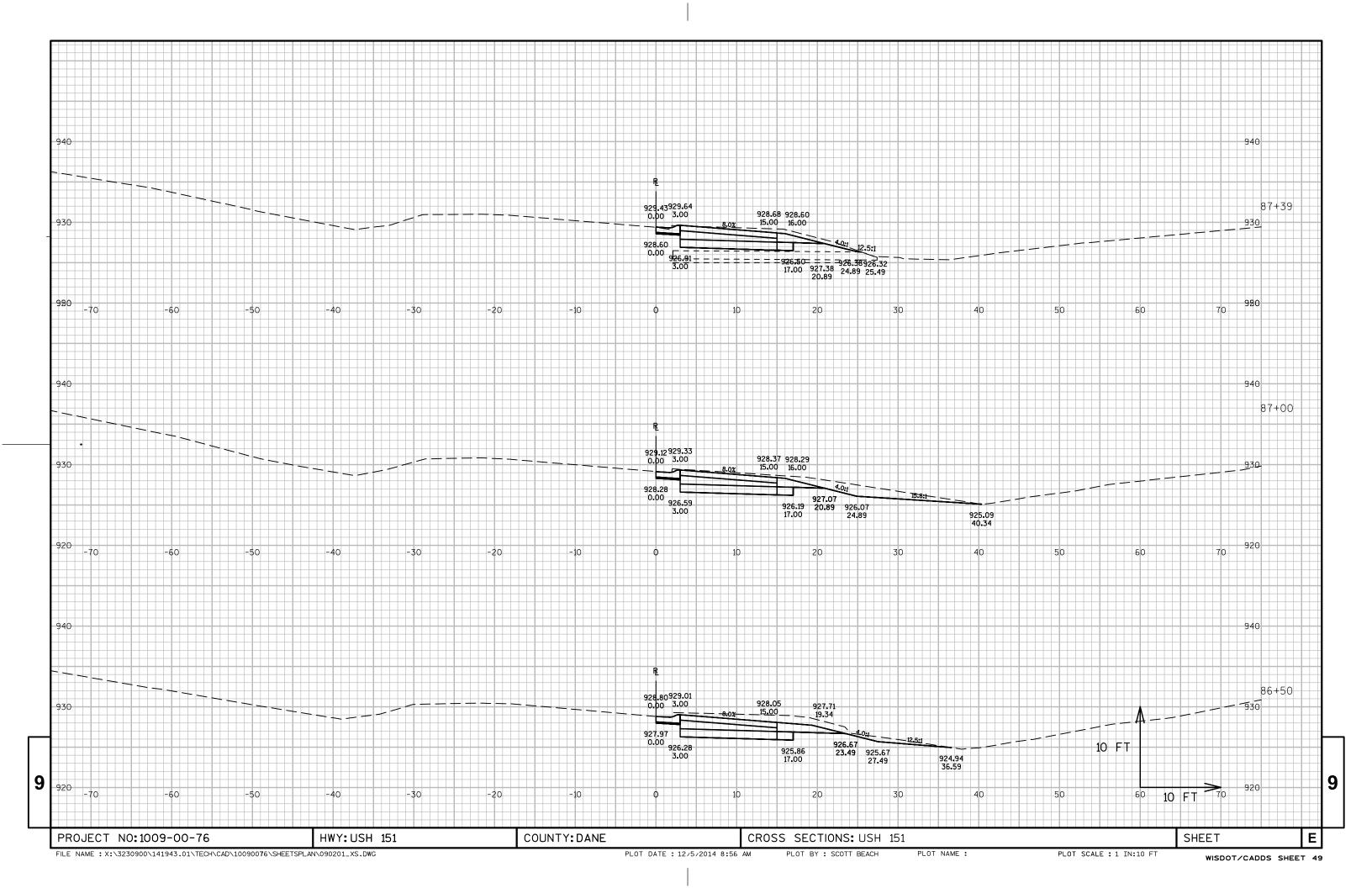
13

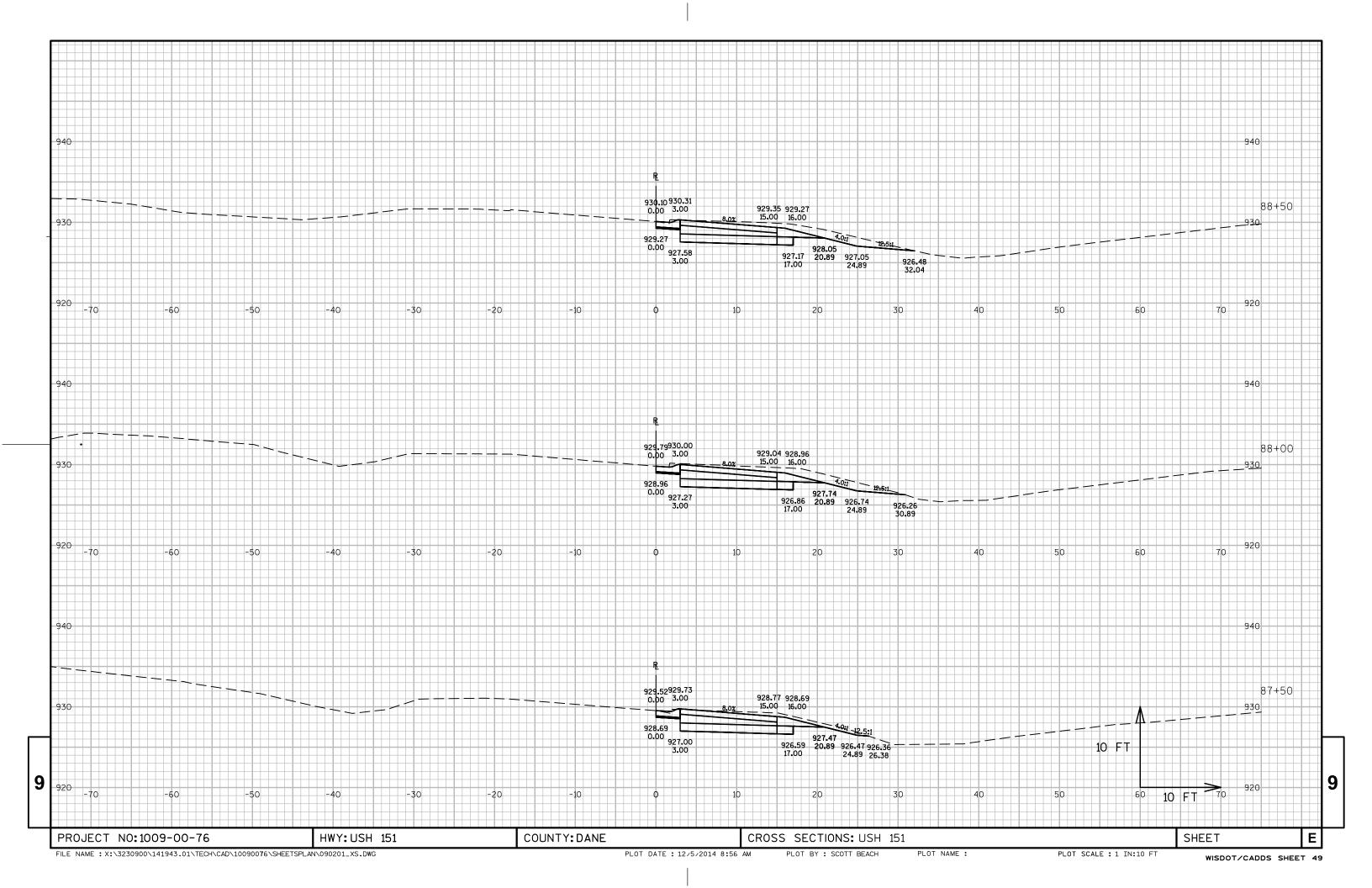
PROJECT NO: 1009-00-76 HWY: USH 151 COUNTY: DANE EARTHWORK SHEET: E

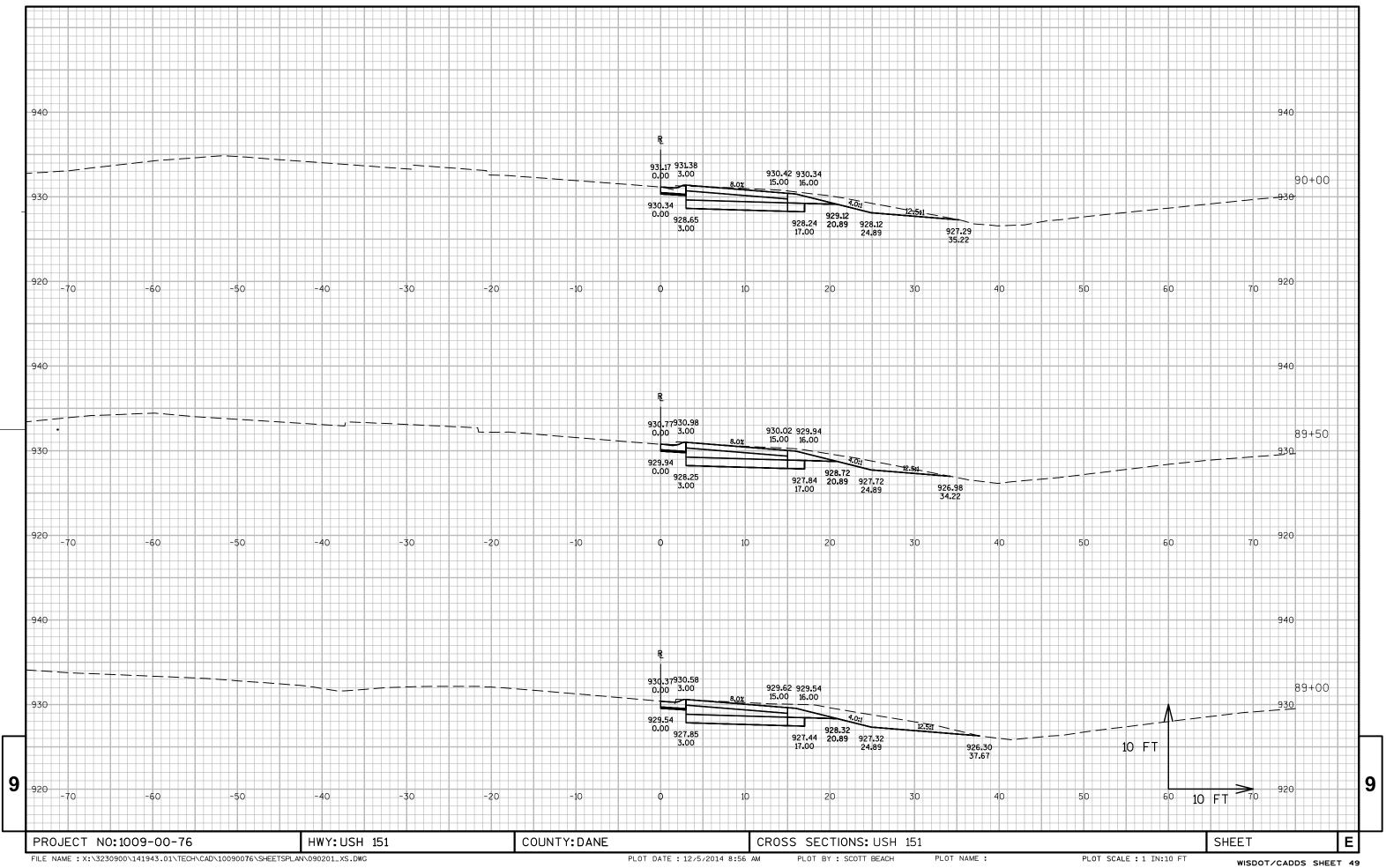


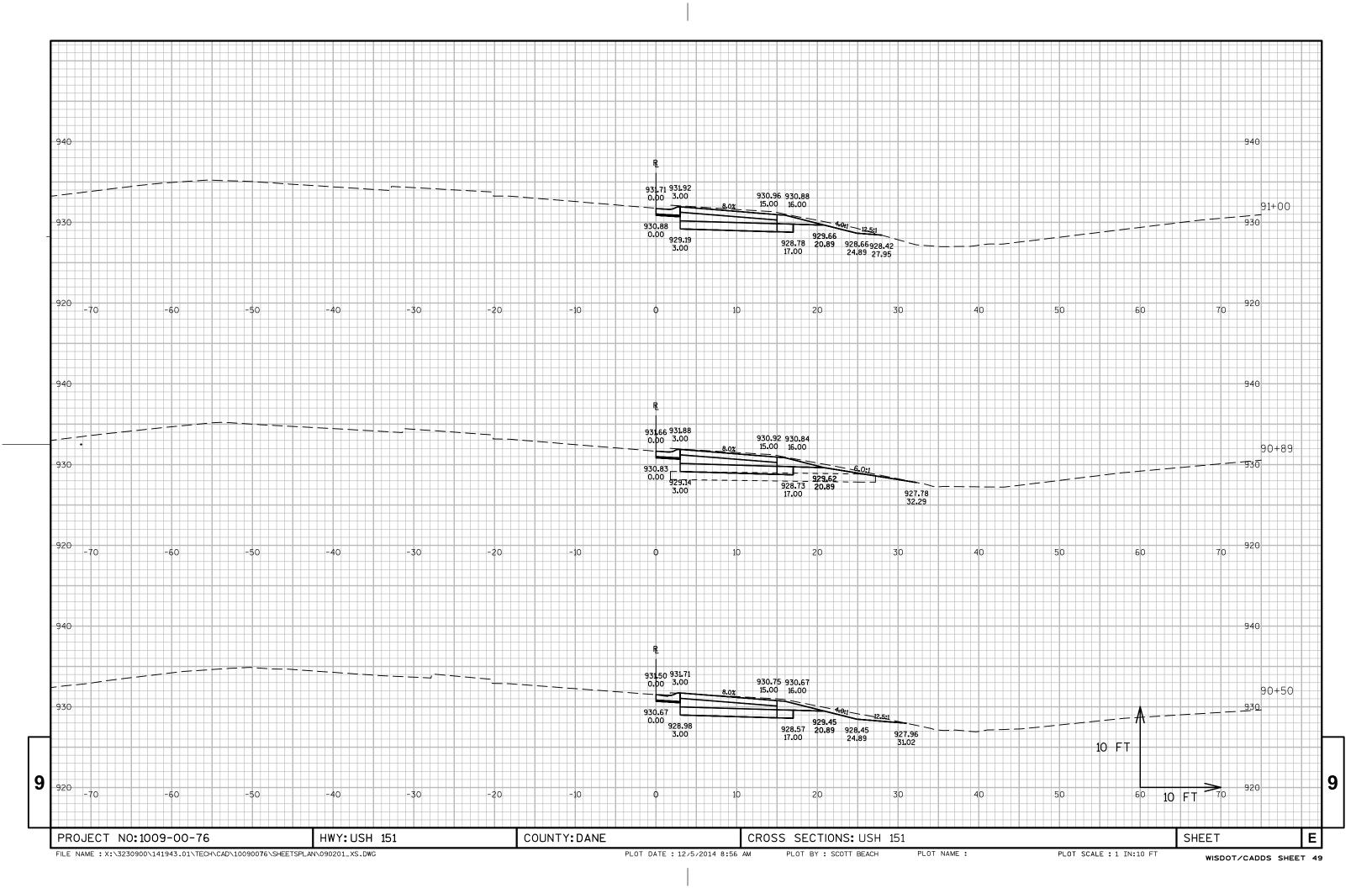


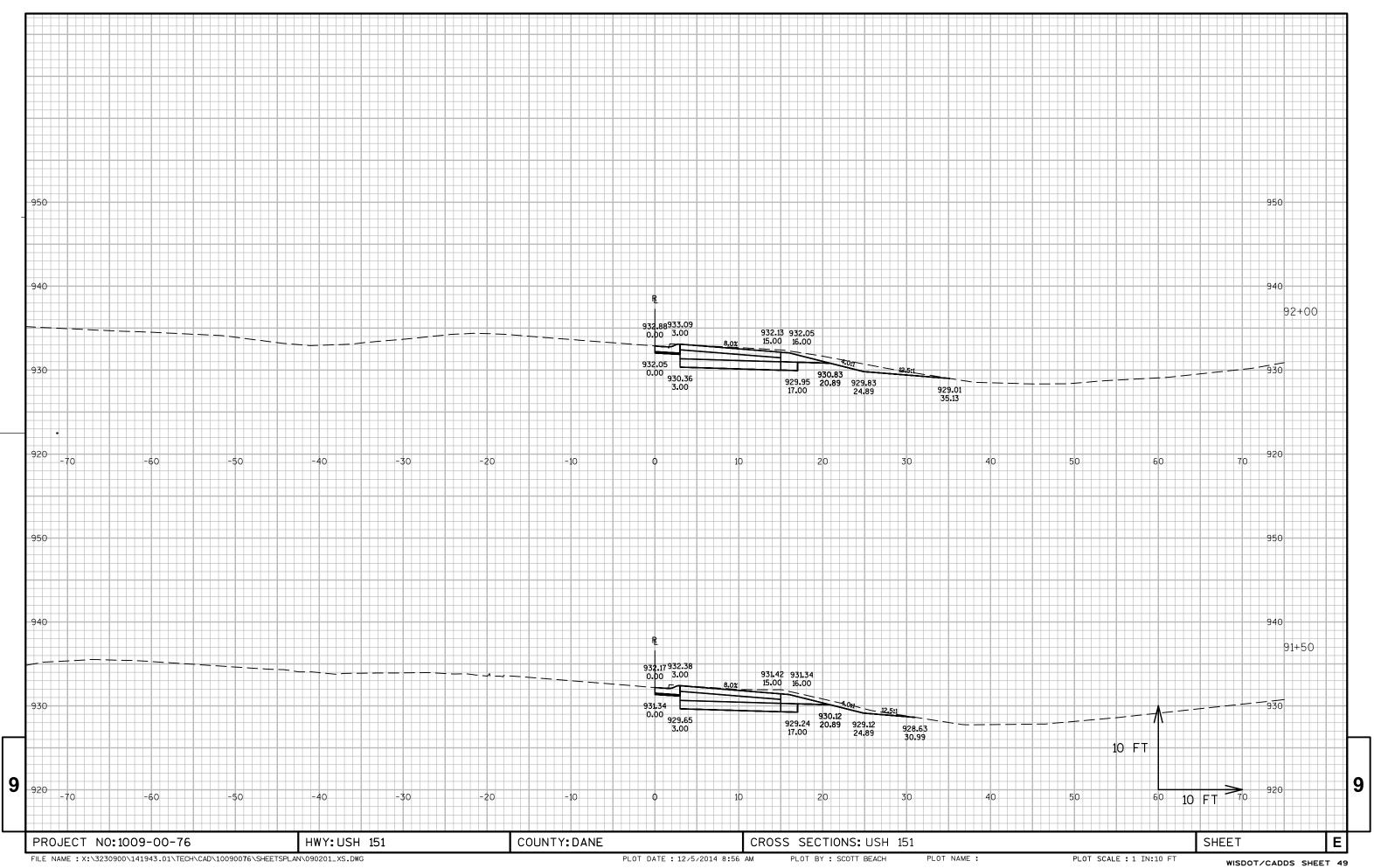


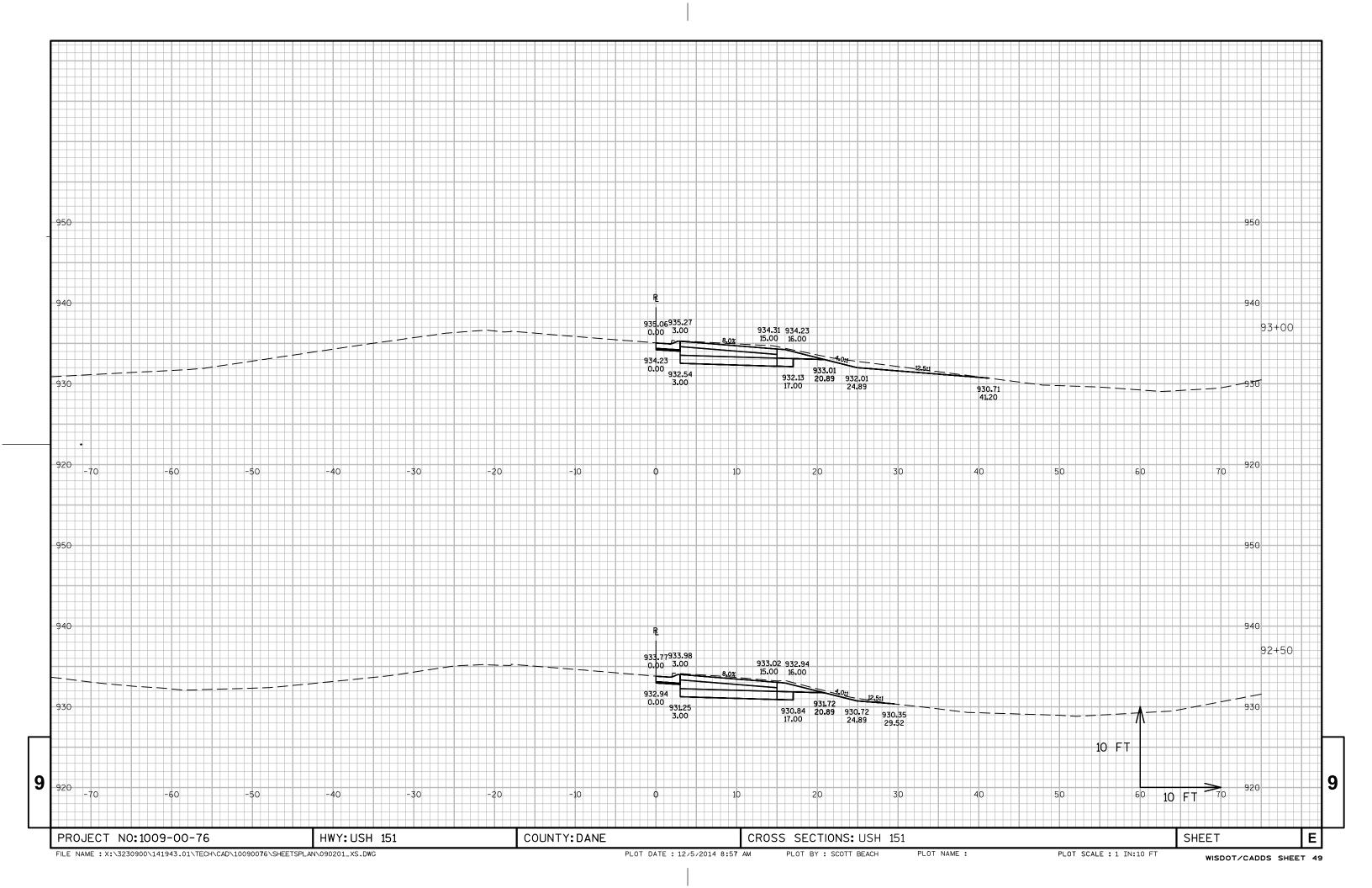


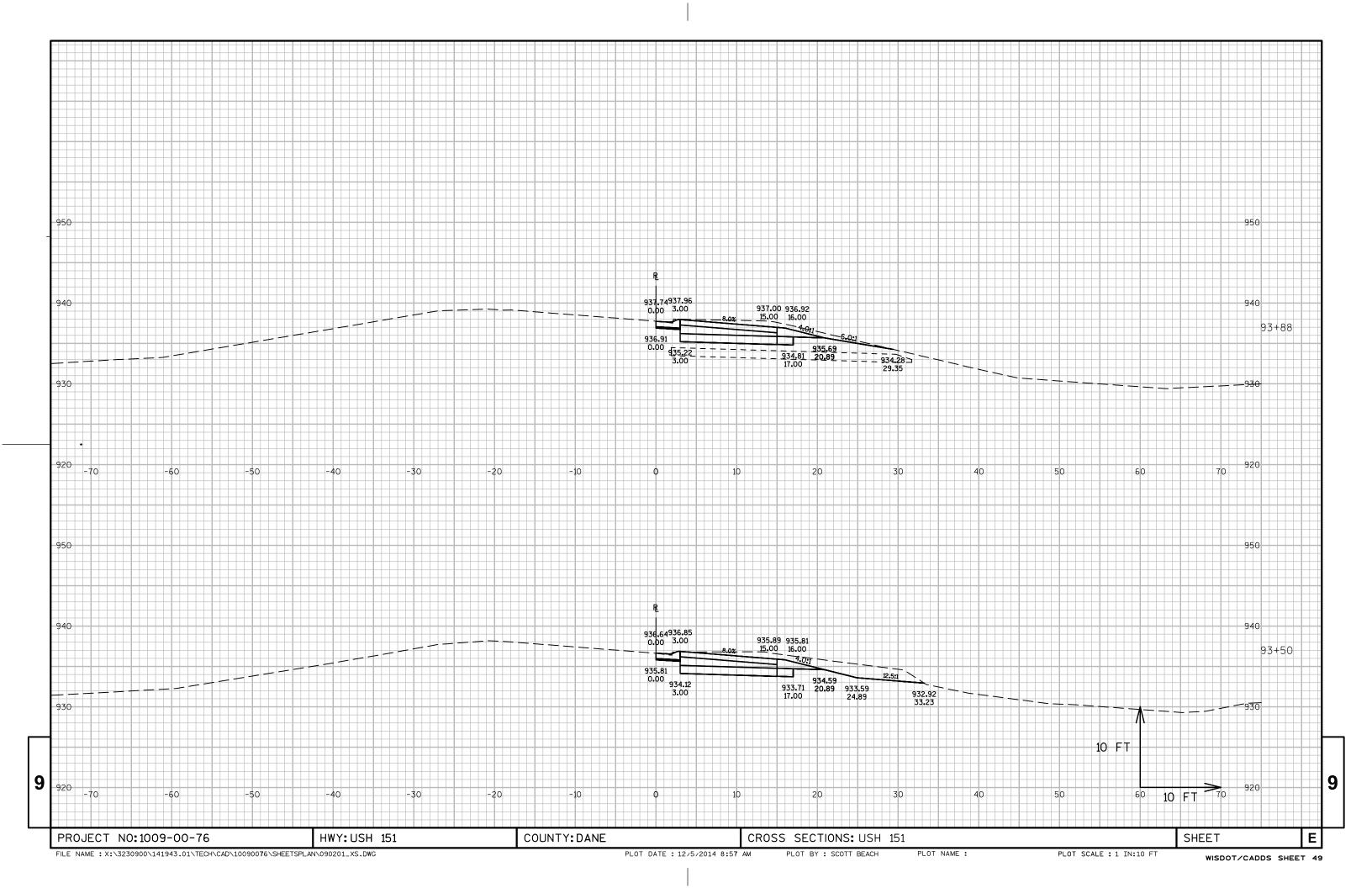


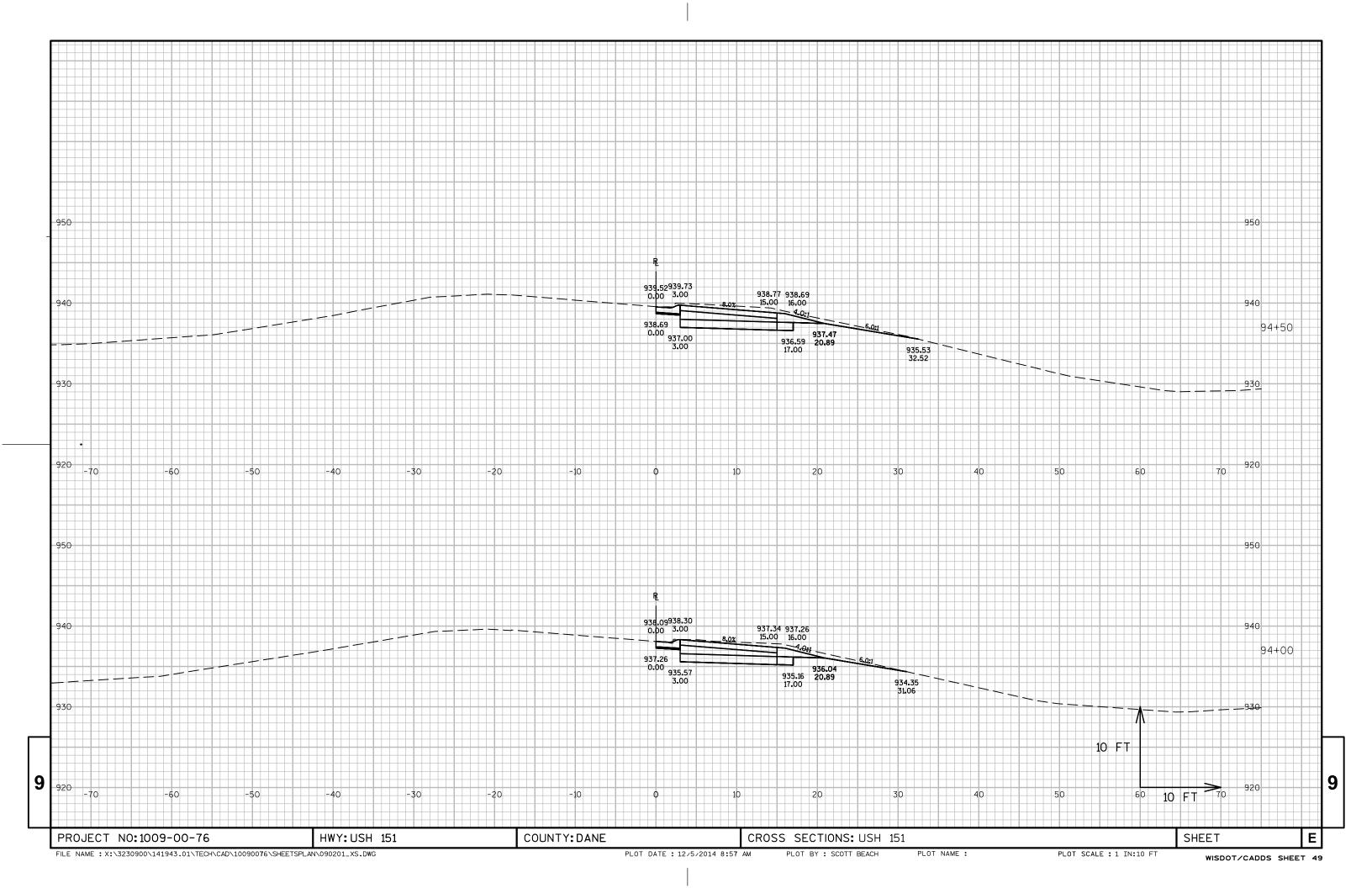


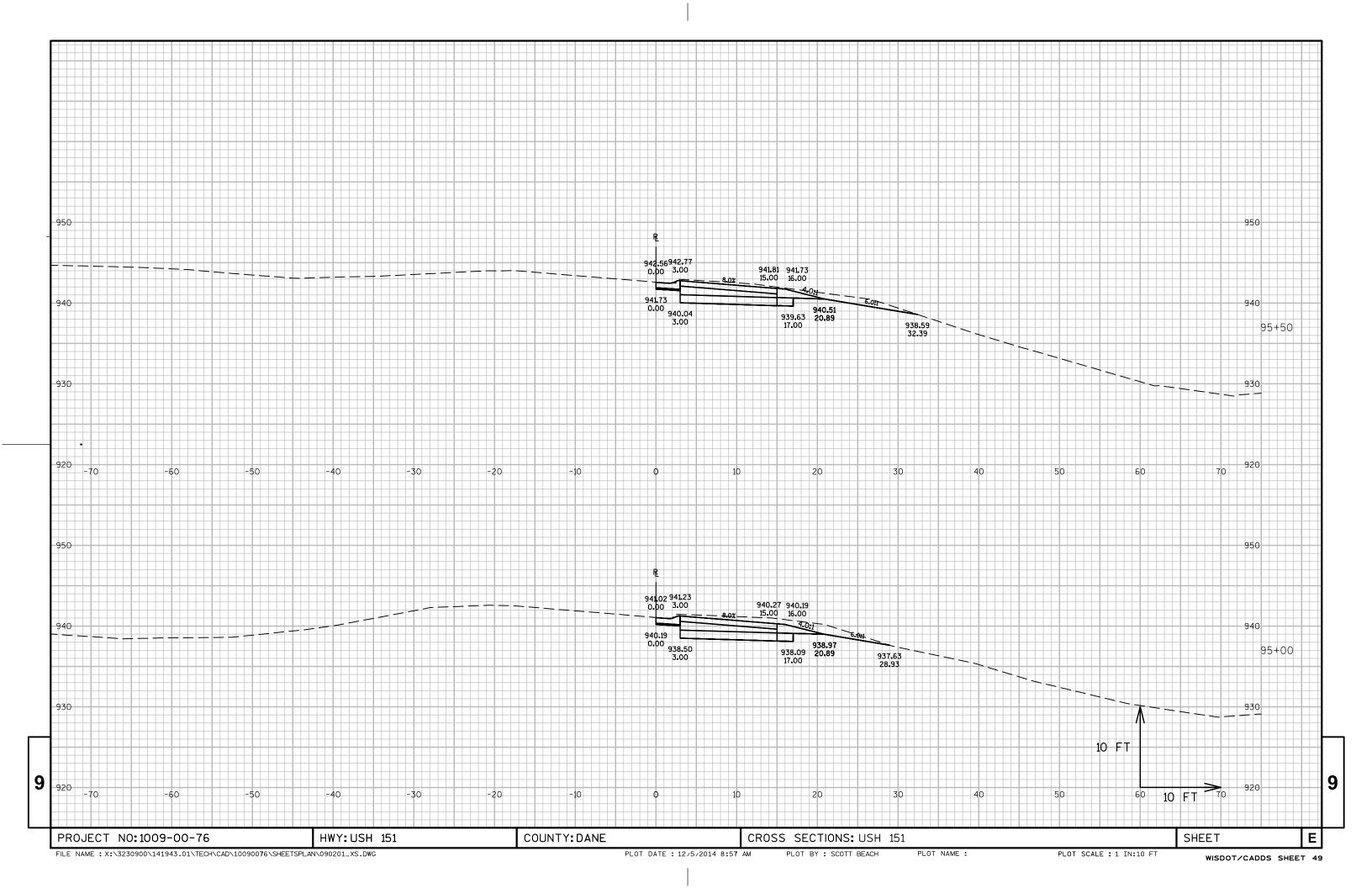


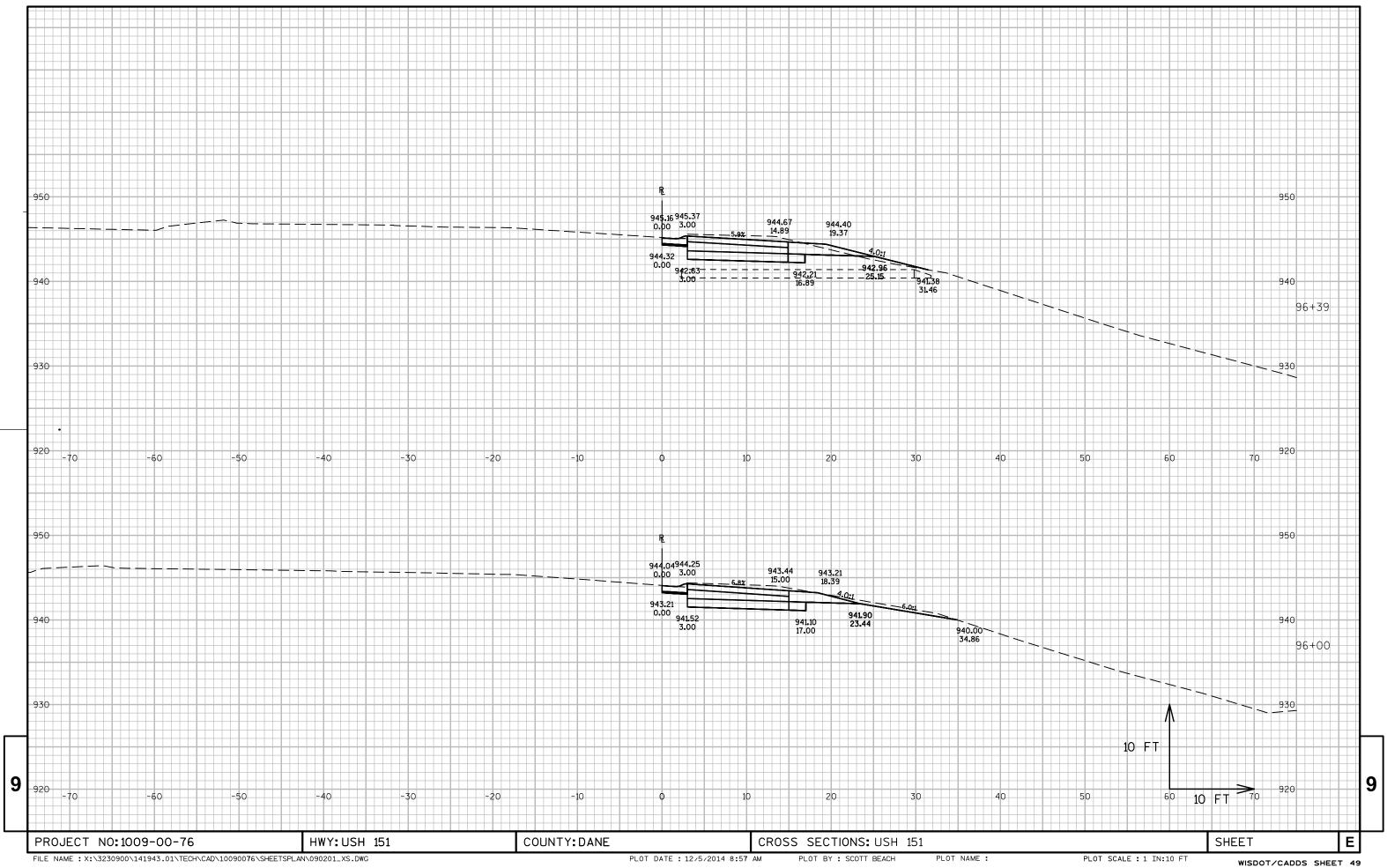


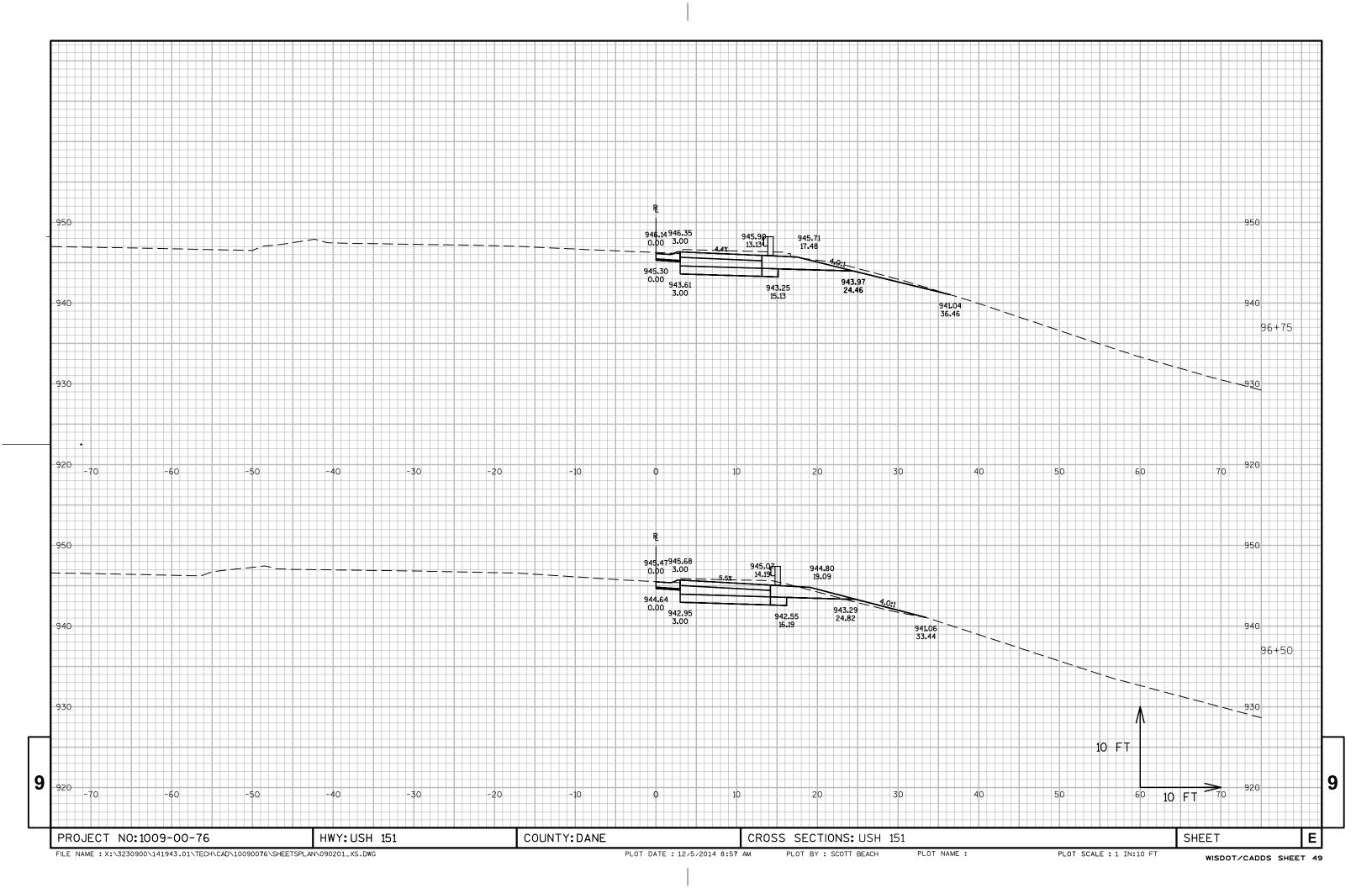


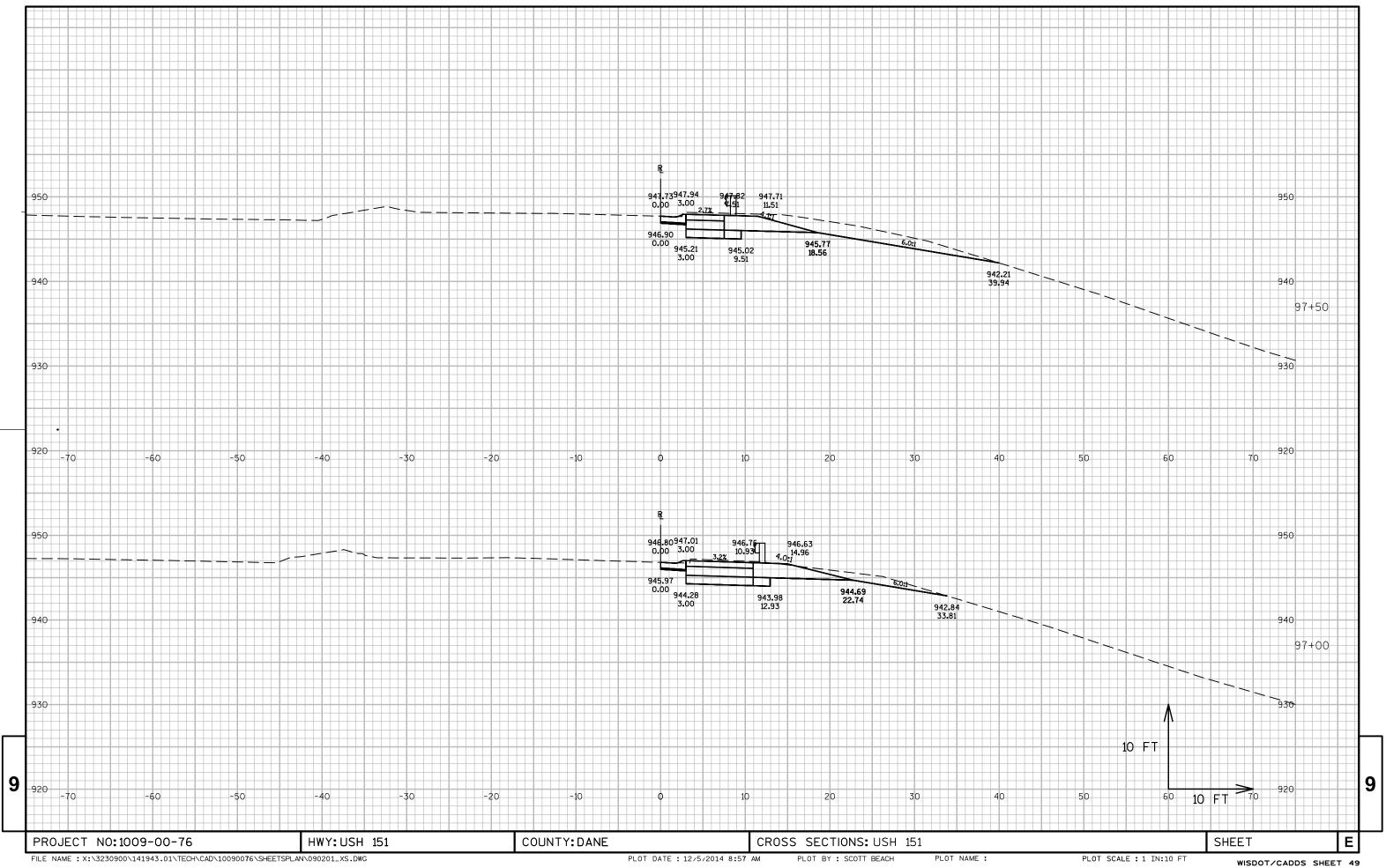


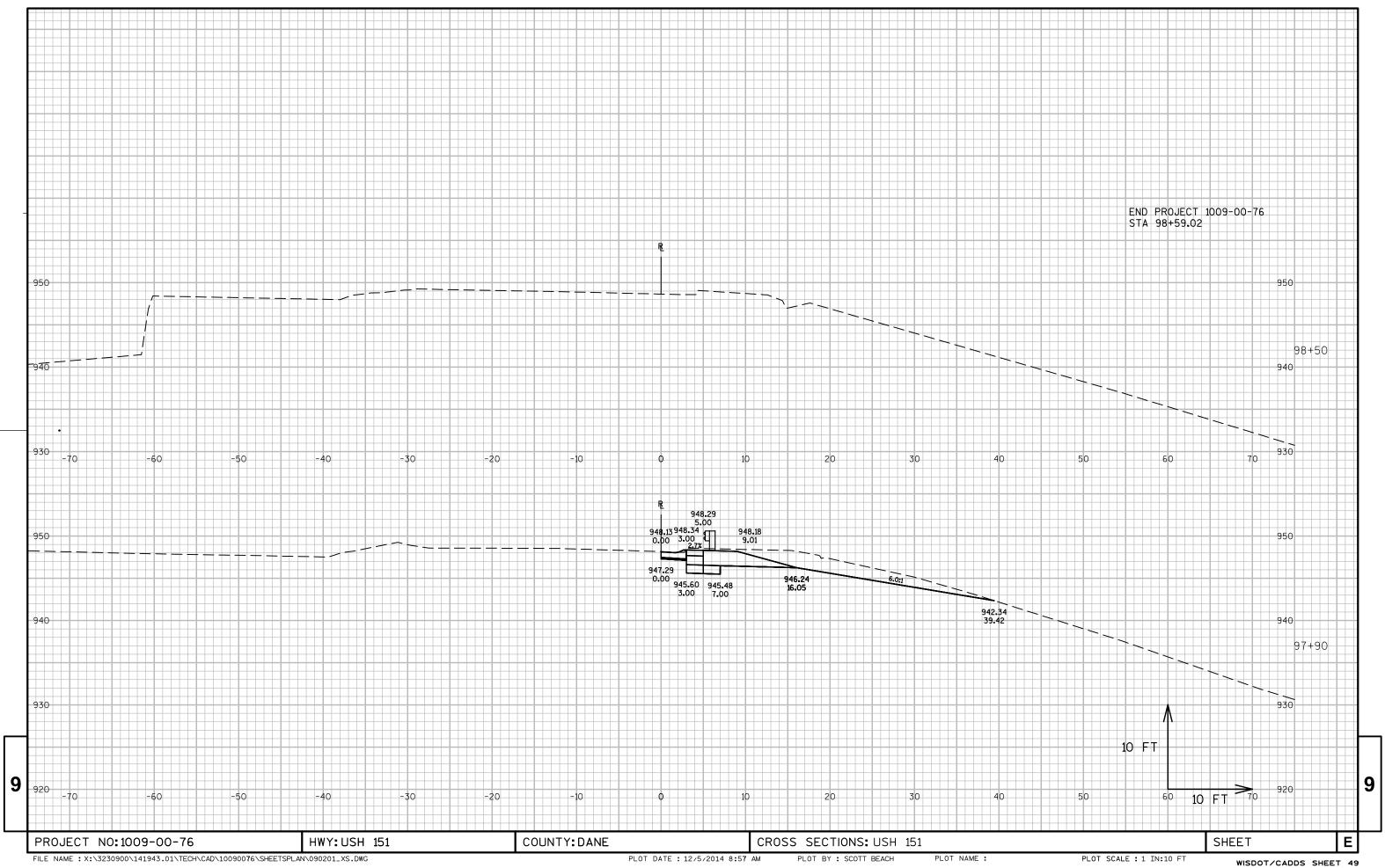














Wisconsin Department of Transportation

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